



European Chamber Overcapacity in China

Causes, Impacts and Recommendations

In partnership with

罗兰·贝格 国际管理咨询公司

Roland Berger
Strategy Consultants

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1 Executive summary

Overcapacity is a blight on China's industrial landscape, affecting dozens of industries and wreaking far-reaching damage on the global economy in general, and China's economic growth in particular. Yet it is a strangely under-studied and seldom-examined phenomenon.

In the Summer and Autumn of 2009, the European Chamber and Roland Berger Strategy Consultants set out to examine to what extent overcapacity harms China's economic development and contributes to rising trade tensions, and to provide suggestions on how this increasingly urgent problem could be addressed.

As will be outlined below, the overcapacity problem in China is by no means a new one. But its pervasive influence has become ever more prominent – and its effects on both the Chinese and international economies have become ever more destructive – in light of the global economic crisis that still grips world markets.

The crisis has throttled demand for exports from China at a time when even more investment, in the form of the Chinese government's massive stimulus package, is being pumped into building new plants and adding unnecessary capacity. As a result, the problem is actually getting worse in many industries.

This in turn is having a severe effect on the Chinese economy. The extremely low utilisation rates in industries producing at overcapacity go hand-in-glove with resource waste. Companies are cutting corners, often disregarding environmental as well as health and safety standards and circumventing labour and social laws. Companies in overcapacity industries suffer from low profits and lack sufficient cash for R&D projects, leading to less innovation. Meanwhile, as banks bankroll the addition of unnecessary capacity in certain industries, the threat from non-performing loans (NPLs) is growing. At the same time, the global impact already can be felt in the form of growing trade tensions. Since trade frictions hamper supply chains, this is a major threat to globalisation's positive effects.

The economic crisis has, then, given added impetus to the drive to find solutions to this key issue. It is precisely for this reason that the European Chamber, along with Roland Berger Strategy Consultants, produced this report.

The goal of the study is to discover why and how overcapacity has come to affect some of China's key industries and, armed with this knowledge, to provide recommendations and suggestions on how the problem can be brought under control.



The study is divided into four sections. The first examines the emergence of China's current overcapacity problem, the policies and politics that underpin it, and the reasons why the problem has worsened as a result of China's stimulus package.

In the second section, the study will look at how this problem is affecting several key industries, and ask what are the specific drivers of overcapacity in these sectors. The industries examined in detail are:

- Steel
- Aluminium
- Cement
- Chemicals
- Refining
- Wind Power Equipment

The third section of the study then turns to the broader impact of China's overcapacity – how it negatively affects the growth of China's economy and how it also contributes directly to rising global trade frictions.

Study findings show that overcapacity is driven by a small number of key recurring factors, among them:

1. High savings particularly driven by retained earnings from state-owned enterprises (SOEs)
2. Collapse of demand in export markets, primarily in the United States
3. Low domestic consumption
4. Weak enforcement of regulations
5. Low input prices due to government policies
6. Too low cost of capital in China
7. Fiscal system encourages local government to attract excessive investment
8. Local protectionism
9. Inexpensive and widespread availability of technology
10. Regionalism driving industrial fragmentation
11. Environmental, Health and Safety standards and laws not fully implemented
12. Philosophy of market share vs. profitability

Finally, based on the findings of the first three sections the study offers a number of recommendations on how overcapacity can be reduced by shifting policy priorities away from investment- and export-oriented growth and focusing on more balanced patterns of growth, driven by domestic consumption and a vibrant service sector. This policy shift is the key to curbing industrial overcapacity.

The study has found that the recent measures taken by the Chinese authorities to curb overcapacity are a positive first step. However, the European business community in China sees further possibilities for improvement and offers more than 30 recommendations, including:

1. Strive to cut capital expenditure ('capex')
2. Increase SOE dividend payment and redistribute to Chinese households (indirectly through government spending on social security, healthcare and education)
3. Increase government spending in pension and healthcare systems in order to provide the social 'safety net' which would enable households to consume
4. Allow market access for specialised, efficient private financial service providers, by encouraging both small and medium enterprises (SME) and private (venture) capital
5. Reform the fiscal system to give local regions more funding possibilities
6. Further open-up the service industry to the private sector and encourage stronger competition in the service sector
7. Improve intellectual property protection so that innovations are protected and Chinese companies are given incentives for increasing R&D spending
8. Enhance the business environment for SMEs
9. Implement more rigorously environmental, safety and health standards and labour laws
10. Adjust the relative input prices by increasing resource and environmental charges
11. Reduce energy price subsidies to industry and continue resource price reform, by focusing on areas like coal resource tax, electricity price, water and natural gas price
12. Gradually appreciate the RMB

It is important to note that the Chinese government has clearly demonstrated that it understands the problem. On August 26, 2009, the State Council released a statement noting that overcapacity had become a serious problem in many industries and that many local governments continue to expand capacity "blindly" and make "duplicated" investments without considering the mid- and long-term implications.

In response to this threat, the State Council revised its policy targets with the goal of reducing the negative impacts from overcapacity such as factory closures, job losses and mounting bad bank loans. In its statement it announced: "What especially requires our attention is that it is not only traditional industries such as steel and cement that suffer from productive overcapacity and are still blindly expanding."

With its revised policy targets, the State Council sends two important messages: It wants quality growth, and it wants to rebalance the economy and achieve sustainable growth.

The European Chamber welcomes these very positive measures, but we also caution that much remains to be done to bring overcapacity under control and to create the economic and political conditions to ensure that it does not re-emerge in the future.



The European Chamber's goal in providing this input is to promote an open and constructive dialogue with Chinese authorities in order to initiate and pursue necessary structural changes to reduce overcapacity and drive China's economy on to a new level of sustainable growth.

These recommendations are addressed primarily to the Chinese government, but the European Chamber and Roland Berger hope that businesses in China will find value in this study, too. This study was launched to coincide with the EU-China Summit in Nanjing on November 30, 2009. The European Chamber believes that this study can contribute to improving the EU-China dialogue, further strengthen EU-China trade and investment links, and promote sustainable development in China.

In order to gather pertinent industry data for this report, the European Chamber asked member companies operating in affected industries to complete questionnaires. These provided hard facts regarding overcapacity in respective industries in China. The European Chamber and Roland Berger Strategy Consultants conducted interviews with selected European leaders of key industries in China in order to gain deeper insights into the roots of the problems.

The European Chamber would also like to thank all the members of the European Chamber, and the Chairs and Vice Chairs of the Chamber's Working Groups, for volunteering their time and expertise to produce this valuable study. Special thanks to Professor Michael Pettis whose engagement and important input was greatly appreciated.

2 Reasons for overcapacity

It is normal for developing economies to go through a period of rapid industrialisation. China's economy today follows a pattern already traced by the economies of Japan, Korea and Taiwan in the late 20th century. China's concentrated focus on developing its heavy industry has led to overcapacity in this sector. This overcapacity can mainly be attributed to three factors:

- **Rapid urbanisation:** 1% of China's population moves each year from rural areas into urban ones. The major housing development that results from this migration creates massive domestic demand for construction machinery, building materials, steel, cement, and chemical products.
- **High savings:** The Chinese have a high savings rate, partly because of the lack of social security, but also because of the limited investment choices available to households, stringent capital controls, and policies that systematically transfer income from the household sector to producers, thus exacerbating the gap between production and consumption. This abundance of capital has led to abundant domestic funding and low interest rates.
- **Low input prices:** Input prices are low mostly because government policies stimulate the secondary sector, especially heavy industry.

Louis Kuijs of the World Bank, when comparing economic structures across various countries, came to the conclusion that higher capital intensity tends to go hand-in-hand with a higher share of industry in the economy. Kuijs proves that heavy industry requires more investment than the services and agriculture sectors to build up physical capital. Light manufacturing and service industries have fewer incentives to build up new capacity. These industries stick closer to short-term market demand as variable costs represent a higher proportion of total costs. Heavy industry, in stark contrast, makes its investment decisions by trying to forecast what demand patterns will look like in four years time. Additionally, the write-off of large up-front investments represents a higher proportion of manufacturing cost.¹

This joint study argues that China's overemphasis on heavy industry is one of the major reasons for overcapacity in the country today.

China's overcapacity was a problem long before the 2008 global economic downturn pushed the issue firmly into the spotlight. The country's overcapacity challenge was staggering in scale in the 1990s, with excess capacities existing in almost all sectors of the economy. Capacity utilisation rates of 35% to 45% were common in many industrial sectors. Taking stock of the gravity of the situation, Zhu Rongji, who was then

1) Kuijs, L., How Will China's Saving- Investment Balance Evolve?, World Bank Policy Research Paper 3958, July 2006; Kuijs, L. and He , Rebalancing China's Economy: Modeling a Policy Package, World Bank China Research Paper No. 7, September 2007 (all available at www.worldbank.org/cn)



Premier, radically changed China's policies in this area. By shutting down state-owned enterprises (SOEs) and making redundant up to 40 million industrial workers from those SOEs, China's growth slowed for several years. Improving productivity was not Premier Zhu's central aim. He took these steps to combat the country's severe over-investment problem. Since it remained domestic, China's overcapacity problem back then went largely unnoticed globally. China in the 1990s was not fully integrated into the global economy and as such its overcapacity did not translate into a huge trade surplus. That is not the case today.

China's average annual industrial growth rate was a moderate 12% between 1980 and 2000. The ratio of gross industrial output to gross domestic product (GDP) was stable from 1985 to 2002 and the gross production value was about 90% of GDP during the same period, with heavy industry averaging 40% to 50%.

After 2002, China's heavy industrial economy experienced an extraordinary boom. The overall ratio of gross industrial output almost doubled to 160% of GDP between 2003 and 2008. The heavy industrial sector was responsible for virtually all of this increase. Within the space of five years, the relative size of heavy industrial production (steel, metals and chemicals, wind energy, paper production, all electricity-intensive sectors) in the economy nearly tripled. This was unprecedented in China's economic history, but this remarkable surge also signalled the beginning of another round of overcapacity in the industrial sector.

The first question the study must address, then, is why the industrial economy – and heavy industry in particular – grew so rapidly in recent years. The next section of the study will argue that severe imbalances in the economy were created largely because private consumption was neglected for too long and the country focused too narrowly on growth in the industrial sector. The absorption of much of China's overcapacity by foreign economies, mainly the United States and the European Union, only reinforced those economic imbalances.

2.1 China's development model and global imbalances

At the root of the global trade and financial imbalance were the distorted savings and spending relationships within and between China and the United States. Private consumption in China was the lowest recorded among large economies - probably in all of modern history - and its savings rate the highest in the 2000s. Consumption in the United States in contrast at this time surged to its highest levels and its savings rates dropped to zero. China and the United States simultaneously also had the largest trade surpluses and deficits, respectively, ever recorded as a share of global GDP.

This was not a coincidence. Savings and investment must balance globally. High savings and low consumption in one part of the world generally require low savings and high consumption in other parts of the globe. Economists may disagree about the direction of causality, but surpluses and deficits on trade and investment accounts are the way savings match investment across the global economy. As long as China's rising savings

19% of surveyed member companies view China's export-driven development model as a high-impact macroeconomic reason for overcapacity in their industry

rate was met by a declining savings rate in the United States and stable savings rates in Europe, a Chinese trade surplus and EU and US trade deficits would help balance savings and investment at the global level.

The global financial crisis in 2008 changed this relationship. China has seen demand plummet, especially from the European Union and the United States.

2.2 High household savings, lack of consumption

Contrary to popular belief, the high savings rate in China does not stem from Confucian cultural values or from a natural propensity among the Chinese to save. The Chinese are eager consumers as any visit to Beijing's Wangfujing or Shanghai's Nanjing Road, the country's two premier shopping streets, shows. Growth in household consumption is not determined by how strongly the economy grows but by growth rates in household income and wealth. If household income expands more slowly than national income, consumption growth will lag GDP growth – as long as consumer credit does not explode – and the national savings rate will automatically rise.

Although China is still a relatively poor country, its household income grew substantially over the past few decades. Yet household income has not grown as quickly as GDP. While China's GDP grew at 11-12% over the 2002-2007 period, MIT economist Huang Yasheng estimates that household income grew at a much lower 9%. If we were able to adjust Huang's estimate to take into account changes in other forms of household wealth – which are described below – growth in household income would have been even lower. This is why consumption has declined as a share of national income, and why China's total production has exceeded its total consumption by a large and growing amount. This is at the root of China's high savings rate.

Chinese households have not been able to maintain their share of national income mainly because the rise in household income was constrained, especially in the last decade, by industrial policies whose aim was to turbo-charge economic growth and employment. These policies systematically forced households to subsidise investments in infrastructure and manufacturing projects, which would have been unprofitable without the subsidies. While these policies generated employment and powered manufacturing growth, they also led to wide and divergent growth rates between production and consumption, and so forced a rising trade surplus. These policies included:

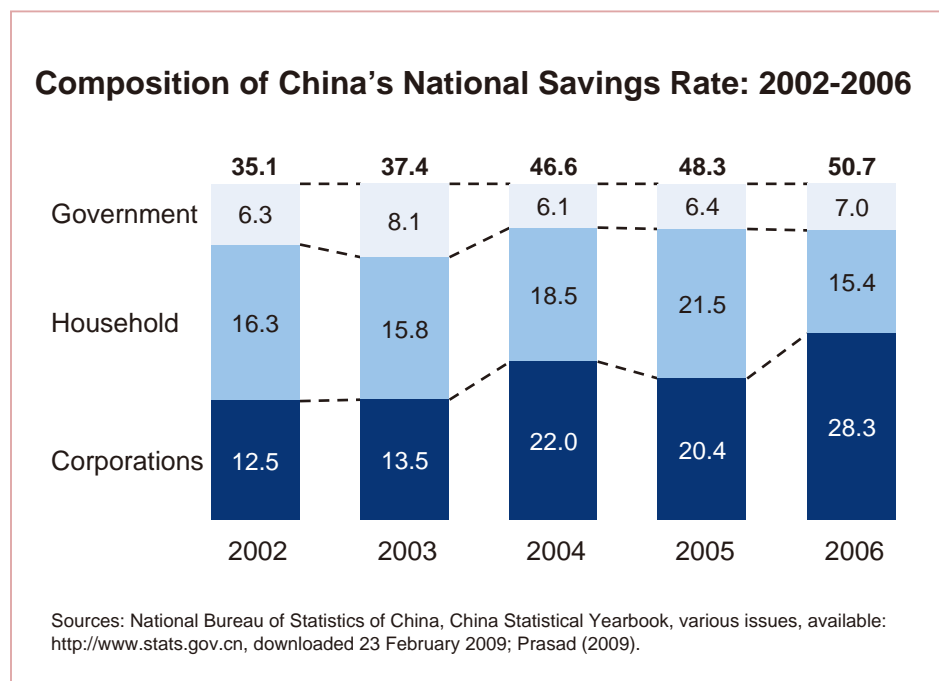
- An undervalued currency: This reduced real household wages by raising the cost of imports while subsidising producers in the tradable goods sector.
- Excessively low interest rates: These forced households - mostly depositors - to subsidise the borrowing costs of borrowers - mostly manufacturers and include very few households, service industry companies or other net consumers.
- A large spread between the deposit rate and the lending rate: This forced households to pay for the recapitalisation of banks hit by non-performing loans made to large manufacturers and SOEs.
- Sluggish wage growth

- Unravelling social safety nets over the past two decades and weak environmental restrictions: These effectively allowed corporations to pass social costs onto workers and households.
- Other direct manufacturing subsidies: Subsidies including controlled land and energy prices are indirectly paid for by households.

China's ability to grow consumption in line with the nation's GDP growth has been severely hampered by its continual transferral of wealth from households to producers. The gap between production and consumption is the savings rate. As the above policies led to a surge in production relative to consumption, a rising Chinese savings rate was the natural result.

2.3 High corporate savings

China's national savings rate stands at 53.2% of GDP today. This extremely high savings rate has two major sources: household savings as explained above and corporate savings.² Given especially the low interest rates depositors receive, and the low lending rate for businesses, much of the increase in corporate savings can be seen as part of the transfer of income from households to corporations. Both have been put to the task of bolstering the growth of China's industrial output.



2) Kuijs, L., How Will China's Saving- Investment Balance Evolve?, World Bank Policy Research Paper 3958, July 2006; Kuijs, L. and He , Rebalancing China's Economy: Modeling a Policy Package, World Bank China Research Paper No. 7, September 2007 (all available at www.worldbank.org/cn); Kuijs, L., Investment and Saving in China, World Bank Policy Research Paper 3633, June 2005.

Rising corporate savings and a very low share of labour income set a worrying pattern. China saw its capacity to produce increasing much faster than its capacity to consume. GDP/aggregate demand growth averaged at around 10% per annum, and at the same time investment grew by more than 20% each year. This created overcapacity.

Until very recently, Chinese SOEs did not have to pay dividends. Indeed, a pilot program was only initiated by the SASAC in 2008. Dividend income was neither directly redistributed to Chinese households nor indirectly through the State. In most cases, retained earnings were reinvested in the company. This approach was partially due to reforms carried out under Premier Zhu to address overcapacity in the 1990s. In order to reduce excess capacity, the government shut down thousands of small- and medium-sized SOEs, which resulted in millions of workers being made redundant. Beijing also took on responsibility for the legacy social burdens of large SOEs. Premier Zhu's reforms not only directly reduced operating cost in the SOE sector, but also helped to make SOE operations more profit-oriented. Waiving dividend payments – meaning that SOEs could retain their earnings – was the compensation Zhu gave large SOEs for reducing their capacity.

When the balance sheets of most SOEs improved in the 2000s, SOEs still did not have to pay out dividends. They continued to pocket their earnings. This contributed to China's soaring corporate savings rate and encouraged companies to expand capacity. Faced with a domestic financial market that offers few alternative investment instruments and has a largely closed capital account, the propensity of Chinese SOEs to turn retained earnings into additional capacity falls on fertile ground.

The considerable combined pool of household and corporate savings keeps interest rates low, thus making it easy to gain capital for investments that further expand capacity, even if these investments might not have been justified at higher, more market-driven rates of interest.

2.4 Easy liquidity and fiscal system

Because manufacturers were easily able to borrow money at low rates, the cost of capital in China was kept far too low. As evidence, economists have often commented on the surprising fact that growth has been far more capital intensive than one would expect from a country like China, with its vast pools of low cost labour. This is almost certainly the case because capital is even cheaper than labour – a result one would not expect from an economy at its current stage of development. Primarily heavy industrial SOEs could expand production without paying attention to demand and supply forecasts.

The access to liquidity was further stimulated by state credit subsidies. To attract investments, local officials often gave implicit lending guarantees to companies whose investment plants showed no consideration for the country's overcapacity situation. Investments are important for local officials because companies boost employment in the region and improve tax revenues in the medium term. For a long time, an official's career development was boosted by positive local GDP growth data. Top local officials were

A combined 50% of surveyed member companies view loose lending policies (31%) and directed lending (to SOEs) (19%) as high-impact macroeconomic reasons for overcapacity in their industry



evaluated based on GDP growth, industrial production, and visible physical changes in cities. The 2008 stimulus package, which gave local governments huge amounts of money in early 2009 in an attempt to kick-start the economy, has probably worsened this trend at the local level.

Interest rates are too low. For too long demand for bank lending has been weak because of SOEs' ability to finance their expansion through retained earnings. This kept interest rates low for the entire Chinese economy. Measures to prevent the currency from appreciating too rapidly have also contributed to a domestic liquidity increase in past years. This is reflected in China's massive accumulation of foreign exchange reserves in this period. While these factors helped China to grow rapidly without much inflation for more than a decade, they led to extremely low interest rates, too.

Too much industrial development in regional China causes a host of problems. The lion's share of locally generated taxes must be passed on to Beijing. Local governments cannot keep them. As local governments cannot raise bonds to finance their social and hard infrastructure, they are far more reliant on their local producers than are local governments in OECD countries. Their reliance on value-added tax (VAT) and business tax means they tend to encourage investments that maximize their fiscal incomes regardless of the overall market situation. This behaviour dates back to the days of undersupply. Unfortunately for China, this approach is no longer practical as most products are in oversupply. If the consumption tax were not the only source of fiscal income for local governments, they would probably quickly lose interest in capital investments.

The present tax system also made local governments reluctant to agree to mergers and acquisitions (M&As) as value-added tax (VAT) revenues were based on the manufacturer's location. When a company took over a local player, the VAT income stream benefited another jurisdiction. M&As in China might flourish after the shift from VAT on production to VAT on consumption. This might help to further accelerate restructuring the economy.

The difficulty with attracting too many companies was made more serious following the crackdown by the central government on rampant sales of local land in recent years. The rural population was displaced as a result of these sales and significant unrest ensued. When tough new restrictions were applied on land use rights sales, local governments lost a major income stream.

2.5 Financial crisis and stimulus package

Before the 2008 financial crisis, Chinese producers could get away with their overcapacity, exporting goods when domestic consumption was not absorbing capacities. Exports acted like a 'safety valve' in an overheated kettle. Chinese exports collapsed in late 2008 as a result of the dramatic retrenchment of the economies of the European Union and the United States. With the safety valve no longer working, China's overcapacity has become impossible to ignore. Even more worrying, while

global demand decreased, China's production capacity actually continued to expand. The growing gap between a low and stagnant global demand and increasing domestic production capacity emphasized the overcapacity problem.

The Chinese government's swift response in November 2008 consisted of a massive fiscal stimulus package including an unprecedentedly large lending program in 2009. Although this stimulus package increased retail sales by 15% to RMB 5.9 trillion in the first half of 2009, sales are not growing fast enough to absorb the increased production.

The stimulus package targeted infrastructure investment, while the government-encouraged lending surge mainly focused on expanding Chinese SOE production capacity.

This led to manufacturing companies' fixed asset investment (FAI) accelerating year-on-year from 25% in January-February 2009 to 35% year-on-year in May 2009. This dramatic growth was especially seen in the non-metal mining, cement, plastics, and non-ferrous metals sectors. Although these sectors reacted well by slowing capex growth in the third quarter of 2008, companies in these sectors unfortunately saw capex accelerate again from February-March 2009 owing to the government stimulus. By mid-2009, they had accelerated by close to 50% against the same period a year earlier. If government-led investment decreases as expected in 2010 as the stimulus program is wound down, the accelerated capex in the first half of 2010 might create even more overcapacities in those sectors.

At the same time, however, the stimulus package offered little to directly boost net consumption. Of course, keeping factories open boosts total consumption by raising employment, but in itself only worsens China's overproduction problem. Since the only economic purpose of investment is to increase future production, the infrastructure investment needed to keep employment levels high is not sustainable. Nor does this approach offer a medium-term solution to the consumption problem, since it merely pushes the problem forward a couple of years.

Worse still, the Chinese stimulus package has poured credit into increasingly questionable projects and will almost certainly increase direct and indirect subsidies to investment and manufacturing. These policies will certainly boost the economy in the short term. But Chinese households will be again forced to foot the bill through sluggish wage growth and low deposit rates if these policies lead to wasted investments and an increase in non-performing loans. The resulting negative impact on household income will make it difficult for households to spend as lavishly as everyone hopes. This increase in current and future production, with no concomitant increase in domestic consumption, will leave China even more vulnerable to global net consumption in general, and American net consumption specifically.

China's leaders say that they are eager to encourage domestic consumption. However, it is unreasonable to expect households to splurge on consumption if they are also forced to pay for banks' recapitalisation or to pay for making unprofitable investments viable. Historical precedents suggest that it will take many years for China to restructure its



economy towards domestic spending. The only effective way for China to increase its reliance on domestic consumption is to reverse the transfer of income from households to the state and corporate sector. For consumption to rise as a share of GDP, household income must also rise as a share of GDP.

In the near term, however, this is much easier said than done. Removing subsidies and returning income to the household sector will cause a sharp drop in China's export competitiveness. It could also cause a surge in unemployment which may paradoxically slow consumption growth during the adjustment period. Yet without a reversal in this income transfer from consumers to producers, hoping for a surge in consumption is futile.

In early 2009, a growing number of economists, including CEIBS Professor Xu Xiaonian, started to emphasise the drawbacks of an investment-focused stimulus package. Even two senior leaders of the National People's Congress (NPC) expressed concerns over the sustainability of the policy stimulus. Vice Chairman of the NPC Cheng Siwei said, the "growth outlook remains challenging, especially in terms of sustainability." Cheng added that "simply relying on fiscal stimulus is not sustainable, and the excessive loose credit condition has also led to undesirable consequences." Cheng pointed out that "it is undeniable that some bank funds have found their ways to the stocks and property markets."

Ms Wu Xiaoling, Vice Chairwoman of NPC's Finance and Economic Committee said that "although the RMB 4 trillion program has stimulated the economy, it also poses the risk of becoming a huge waste." She asked the government to consider slowing down the infrastructure investment program. Ms Wu pointed out that "as it is difficult to achieve the fiscal revenue target set earlier this year, we should make efforts to increase revenue collection and cut fiscal spending".

Rather than solve problems, critics highlight that excessive investments in infrastructure areas, especially those that are already plagued by serious overcapacities, eventually exacerbate them. Take the example of roads. The number of cars on each kilometre of Chinese highways is only 12% of the seven major OECD countries' average. Also the recently expanded ports are underutilized as freight traffic declined by 20%. Small airports have an average utilisation rate of only 50%. Many public projects are financially unviable or incapable of making returns sufficient to repay bank loans. These could possibly turn up as non-performing loans in the banking system, which would require another government bailout.

The original intention of the RMB 4 trillion package was quickly to boost GDP growth and create jobs with public investment projects. It has become increasingly obvious that providing unemployment benefits to laid-off workers would be a much more cost effective way to achieve social stability. Deutsche Bank calculated that a RMB 1 trillion investment in railways creates 6 million jobs. Paying unemployment benefits to the same number of people would cost less than one-tenth of that amount.³

3) Deutsche Bank, "China Macro Strategy," 29 June 2009.

2.6 Local-level economic policies

Local protectionism is a widespread problem in a continent-sized country like China, where the performance of local government officials is measured almost entirely on local GDP growth. This manifests itself in many ways. Local government officials try to attract as much investment as possible and then they regulate local economic activities in ways that put non-local entities at a disadvantage. Chinese provinces, under pressure to help out local firms, issued a series of "Buy Local" policies in 2009.

56% of surveyed member companies saw local government policies aiming to attract investments as being a high-impact macroeconomic reason for overcapacity in their industry

An example of "Buy Local" policies⁴

Anhui province, home to Chery Automobile and Ma'anshan Steel, issued a policy in early 2009 saying that car companies have to use steel from within Anhui. Construction companies and appliance companies have to "cooperate" with Ma'anshan Steel. All power plants have to cooperate with four big Anhui coal miners, so that "Anhui power uses Anhui coal". To help Chery and Jianghuai Auto to increase sales, governmental and provincial taxi fleets were encouraged to buy Chery and Jianghuai cars.

Company bankruptcies are avoided using local subsidies. Non-local competitors face additional fees for products that are produced in other regions of China. The VAT system certainly makes M&As difficult, but their popularity is also limited because of the ensuing loss of influence among local officials.

China is not yet really an open coherent domestic market, but rather a patchwork of markets, each with its own unique trade and investment barriers. Without being able to benefit from economies of scale or standardisation, production costs are higher than normal and, certain enterprises cannot expand market share and accumulate enough strength because they have been effectively barred from competition in certain localities. Production sites are kept open even if they are underutilised, leading to overcapacity for the entire Chinese economy. The present system makes it hard for domestic companies to become 'National Champions'.

2.7 Subsidised costs to producers

Another important factor contributing to the rapid growth of capacity in China over the past years has been the mispricing of natural resources, the environment, and labour. Using energy prices as an example, UBS (May 4, 2009) outlined the relatively distorted input prices in a 2009 study. While China's corporate energy price index doubled between 2002 and 2008, the world energy price index rose by more than 400% during that period. China's gasoline, water, and industrial electricity tariffs are about one-third to one-half of the world averages and even lower than many developing countries. This

13% of surveyed member companies view subsidised costs to producers as being a high-impact microeconomic reason for overcapacity in their industry

4) Reuters India Online, "China's provinces trot out "Buy Local" campaigns", February 18, 2009.



is especially unsustainable given that China is short in natural resources. Half of its oil consumption is met by imports and two-thirds of Chinese cities face water shortages. The present utility charges do not reflect fair market prices. They were kept low to stymie inflationary pressure fears and to minimise the negative social impact on a large part of the population, which still earns very little.

Environmental and social welfare effects are difficult to quantify. According to a 2007 World Bank study, however, the hidden costs of air and water pollution in China amount to about 5.8% of annual GDP. If the pricing mechanisms for natural resources are rationalised, the enforcement of environmental levies is essential to prevent further deterioration of air and water quality.

Low wages for migrant workers create very flexible labour markets, which helps labour-intensive industries such as textiles. Lax implementation of the new Labour Law often means factories with sweat shop conditions are still operating. In terms of social welfare, over 80% of rural migrant workers in the cities have no pension or health insurance coverage. If the social safety net were fully in place to protect the labour force, then a large number of Chinese firms in the low-end, labour intensive and polluting sectors would immediately be driven out of the market.

2.8 Easy availability of technology

Overcapacity is most widespread in sectors that are considered low-tech or when technology is inexpensive or widely available, as is the case with cement and steel. It is easy to set up new production lines and to increase capacity in these sectors.

In addition, the slow implementation of intellectual property rights (IPR) in China means technologies are spread far and wide. In some cases – take the renewable energy sector for instance – new technologies are disseminated by foreign companies when they establish new supply chains. This new and easy accessible technology not only feeds into the production lines of foreign investors in China, but also serves new domestic companies. They benefit from the presence of a whole new supply chain of companies eager to sell their wares.

25% of surveyed member companies point to easy technological availability as being a key reason for overcapacity in their industry

2.9 Industry localisation / fragmentation

The well intended and important central government policy of encouraging companies to venture into less developed regions of the country has been a contributing factor in the build-up of overcapacity. The best-known example is the “go-west” strategy, which when coupled with easy lending, led some local officials to approve redundant investments simply for the sake of inland development. The “go-west” strategy started in 2000 and focused on energy, electricity, transportation and infrastructure. The aim of the strategy was to quickly develop the western provinces in order to secure social stability and to increase the wealth of the region.

Enhanced financial resources, tax benefits, as well as political support improved the investment environment and opened up the world to the region. Without a doubt, West China benefitted enormously from the strategy: GDP now grows faster there than in any other region in China. Clearly, this development improved the livelihood of millions of people. Unfortunately, the strategy also helped local officials to build up capacities that add to the country's overcapacity problem.

2.10 Environmental, health and safety standards

Environmental, health and safety standards (EHS) also contribute significantly to the national overcapacity problem. There are no opportunities at a national level to shut down obsolete or polluting plants as this falls under the jurisdiction of local governments, which are loath to close such plants because of the ensuing unemployment.

The European Chamber's annual position papers outline in great detail how the environmental protection bureaus (EPBs) at the provincial level depend more on local than central government, financed as they are exclusively by provincial governments. This creates a structural disconnect between provincial and national environmental protection agencies. Local EPBs, instead of being an independent body to hold local government accountable for reaching environmental standards, have become a 'sub' organization of local government. There is no doubt that the Ministry of Environmental Protection (MEP) has the will and commitment to clean up China's environment, but it must also be given the power and capacity to implement laws and regulations nationally. The structural disconnect between national and local level reduces the efficiency of environmental protection efforts at the local level, too.

Environmentalists and legal specialists generally concur that the existing environmental laws and regulations in China are adequate. Enforcement is the problem. China, with its vast area and massive population, faces an enormous challenge in balancing its economic growth with environmental concerns. While the status change from Bureau to Ministry gives MEP more administrative power, it has not been given adequate enforcement power. MEP is nominally responsible for enforcement and monitoring, but the real power is actually spread among numerous other authorities, including the National Development and Reform Commission (NDRC) (on environment industry development), the Ministry of Water Resources, the State Forestry Administration, and the State Oceanic Administration. This reduces the effectiveness of environmental monitoring and control.

Environmental protection rests with some 2,500 EPBs spread throughout the country. They are responsible for monitoring and enforcing environmental laws and regulations within their jurisdiction. Real decision making power lies with local government. Local protectionism is the result of conflicts of interest in monitoring and enforcing environmental laws and the EPB may become a "servant of local government" with no real powers. The prevailing local implementation of environmental and labour laws keeps sub-standard companies in business to the detriment of the local environment. In a recent position paper, the European Chamber recommends that steps need to be taken

25% of surveyed member companies point to lax enforcement of environmental regulations as being a key reason for overcapacity in their industry

19% of surveyed member companies point to lax enforcement of safety regulations as being a key reason for overcapacity in their industry



to ensure that EPBs gain independence from local governments. Reporting directly to the MEP would give local EPBs real power to enforce local laws and regulations, and provide them with adequate means and resources.

When local governments turn a blind eye when national laws are being violated, they effectively give companies operating below legal standards a local subsidy. This gives those firms a distinctive cost advantage, and keeps companies in business that would otherwise be closed. Subsidies of this sort keep overcapacities in the market, and hurt the bottom line of responsible companies abiding by national laws.

2.11 Philosophy of market share versus profitability

Most industrial companies are market-oriented, but the state nevertheless still controls many heavy industrial companies. That means many of these companies have no 'market' ownership and that accountability and transparency are lacking. In most cases, these companies do not pay dividends. The major shareholder – the state – has no final claim on earnings and profits and therefore has no strong interest in seeing profitability be maximised. Capacity, production and market share goals are used as the primary benchmarks to assess the performance of these state-controlled corporations. As many of China's business people act in a "Market Share driven" economy, companies reinvest retained earnings to gain market share and to make their companies bigger. Size matters in China.

25% of surveyed member companies point to the market share philosophy of Chinese companies as being a key reason for overcapacity in their industry

3 Six industries are severely affected

Numerous sectors of Chinese industry are currently experiencing overcapacity, albeit to varying extents.

China's shipbuilding industry, which has a capacity of 66 million deadweight tons (or DWT), is the world's second-biggest behind South Korea and accounts for about 36% of global capacity. Demand today stands at 35-40 million DWT, of which 70% is exported. Domestic consumption is small, representing around 10 million DWT. China's shipbuilding industry is facing a monumental overcapacity problem, with overcapacity likely to increase until 2011. The China Association of the National Shipbuilding Industry is fully aware of this problem, stating that "orders at shipyards have been falling and shipyards' capacity is going to run idle in the coming years and the problem of overcapacity is likely to surface next year".⁵

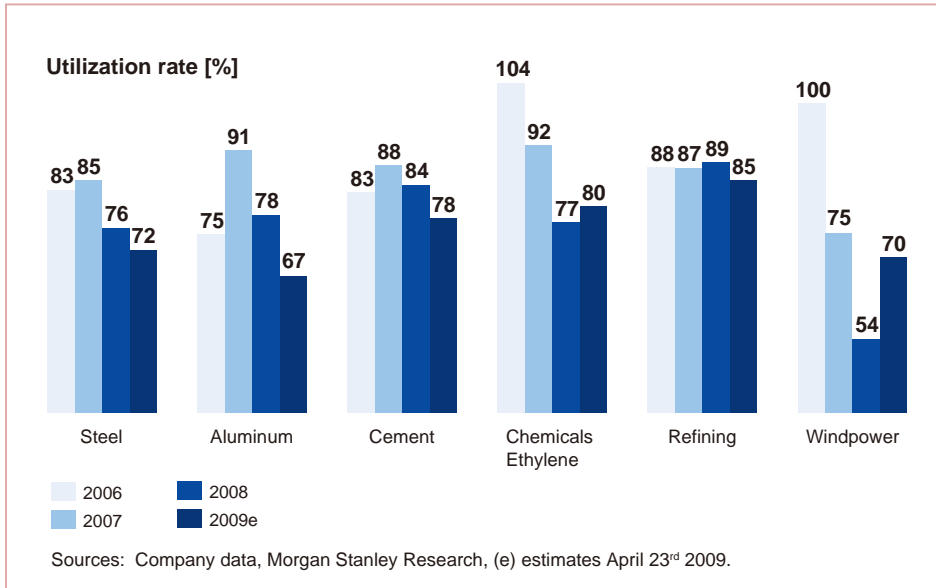
The flat glass sector provides another example of overcapacity. Capacity in the flat glass sector was 650 million weight cases/p.a. at the end of 2008, with production of 574 million weight cases/p.a. This translates into half of the world's entire flat glass production. In the first half of 2009, capacity was increased by 48.4 million. To make matters worse, more than 30 additional production lines are under construction, the added capacity of which could bring overall capacity beyond 800 million weight cases/p.a., while demand remains nearly stagnant.

The situation is not much better in many segments of the agricultural sector. Output from the soybean oil extraction industry, for instance, is 87 million tons/p.a. It has a utilisation rate of 48%.

The State Council recently highlighted six industries in which the problem of overcapacity has the strongest impact on the economy. These industries are iron and steel, cement, electrolytic aluminium, glass, coal chemical, polysilicon and wind power equipment.

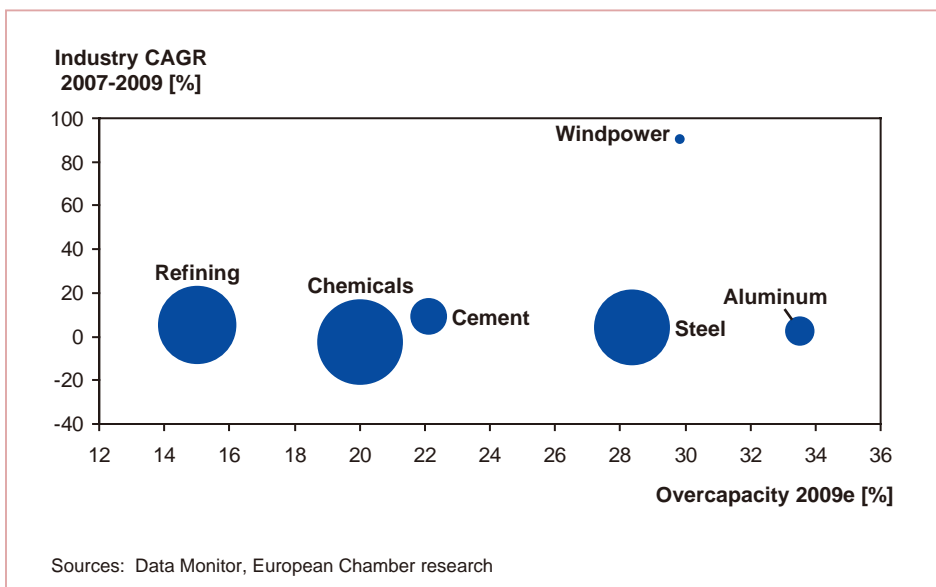
In order to provide constructive support to the State Council in their arduous task of tackling overcapacity, the European Chamber has selected a number of key industries where member companies can contribute their know-how to developing effective and sustainable solutions to combat overcapacity.

5) Zheng, L., "Ship sector plan draws lofty goals," China Daily, June 5, 2009



For the purposes of this study, overcapacity will be defined as the difference between production capacity and actual production (meaning overcapacity will be considered as the converse of the utilisation rate). To better analyse the problem of overcapacity, further data has to be considered, including sector production compound annual growth rate (CAGR), projected demand as well as fixed asset investment (FAI).

The next several pages will focus in particular detail on the steel and chemical sectors. The greater relative significance of the steel and chemical sectors to the Chinese economy in terms of market value and the relatively high level of overcapacity from which these two sectors suffer, as illustrated in the chart below, are the reasons for focusing so intently on these industries.



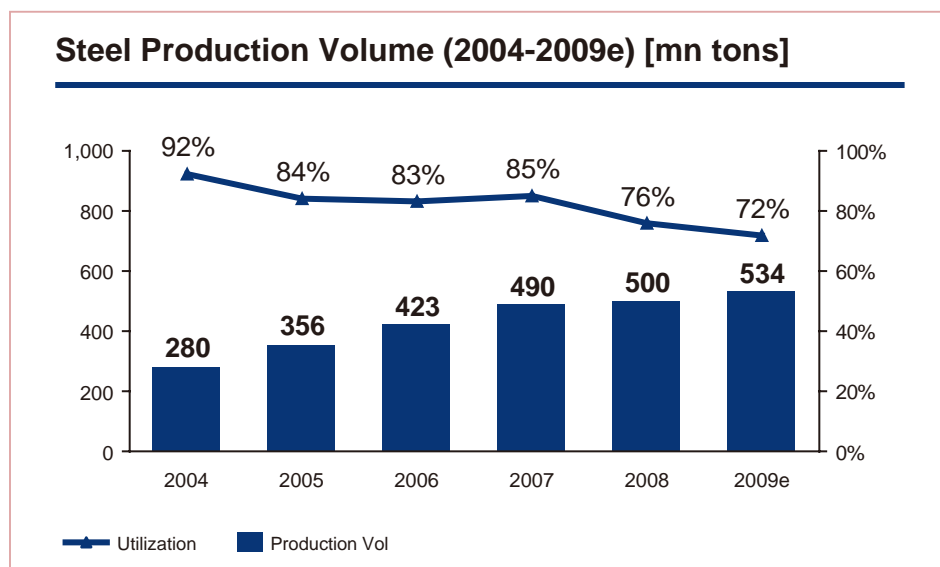
3.1 Steel

China is the world's biggest steel producer and its steel industry accounts for nearly half of global output. In fact, its output is so large that it matches the combined output of the next four biggest steel makers, namely: Japan, the United States, Russia and India. China's steel industry enjoys this massive capacity largely thanks to supportive industrial policies spanning decades whose sole aim was to help this "strategic" industry flourish. The government was still introducing favourable policies to support steel even as late as 2002. The aim of these policies was to increase vertical integration and companies' overall competence in sheet production. These policies encouraged steel companies to swarm into steel sheet production programs.

Market forces cannot be discounted in explaining the meteoric rise of China's steel production capacity over the past five years. The growing economy has given the greatest momentum for the development of the steel industry. In recent years, the strong demand from infrastructure construction, real estate, machinery and the automobile industry, coupled with overestimated market expectations, pushed up the steel price dramatically. The soaring price not only spurred large steel groups to build new steel lines, but also attracted many medium and small steel companies to the industry.

At the end of 2008, capacity was 660 million tons, while production was only about 500 million tons and demand 470 million tons.⁶ Thus in late 2008 China's steel sector faced an estimated 100 to 200 million tons of excess capacity, a figure that has increased through 2009 by most accounts. The order of magnitude to the steel industry's overcapacity challenges can be illustrated by two startling figures:

- In 2008, China's per capita production of steel was approximately equal to that of the European Union and higher than that of the United States.
- In the third quarter of 2008, global output of steel fell by 20%, whereas Chinese production accelerated 15% in this quarter. This growth might not be warranted or sustainable.⁷



*Overcapacity in steel (2008)
Capacity: 660 mn tons
Production: 500 mn tons
Utilisation rate: 76%*

While production volumes continue to increase, utilisation rates dwindle.

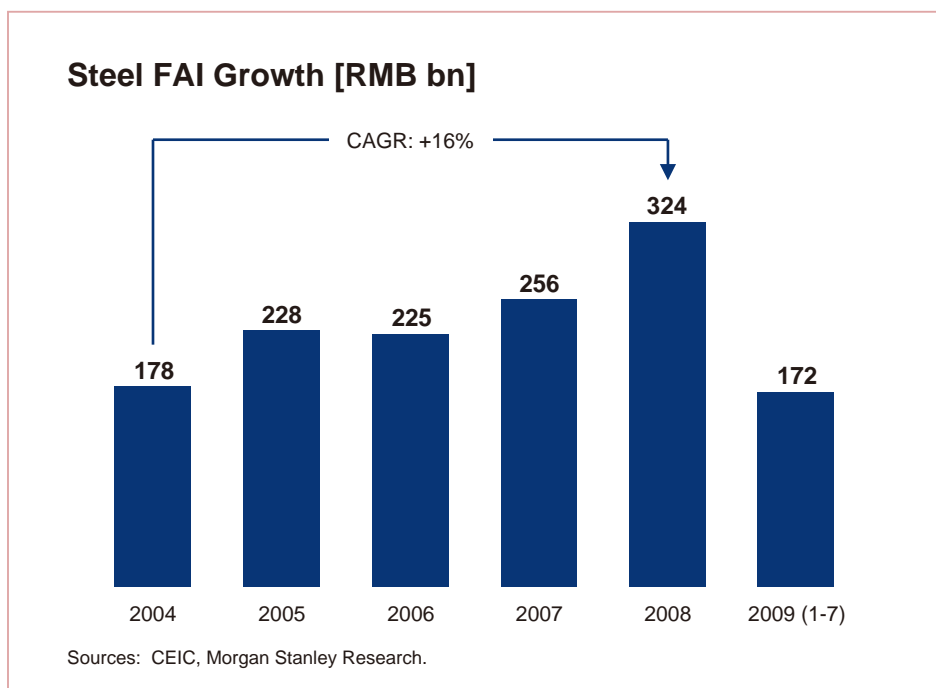
6) Ma, D, Eurasia Group Note - CHINA: Beijing tries (again) to curb overcapacity, but local governments will resist, Eurasia Group, October 5, 2009.

7) Bloomberg News "China to Study Curbs on Overcapacity in Steel, Cement, 26th August 2009



Aggravation of overcapacity in the medium term

The outlook for global steel demand remains bleak with a 36.6% year-on-year decline in the United States and a 14.9% decline globally in 2009. Deutsche Bank estimates that global capacity utilisation will be only 65% this year compared with 84% in 2008.⁸ In this difficult global context, it is particularly troubling that over RMB 140 billion was invested in the Chinese steel industry in the first half of 2009 and that there are currently 58 million tons of new capacity under construction in China. Taken in combination, the preceding and following graphs offer a clear and stark visualization of this worrying trend.



As a result of the RMB 4 trillion stimulus package as well as the dramatic increase in lending by commercial banks, the demand for construction steel surged in 2009. Steel giants started constructing new lines. At the same time, the stimulus package induced small, private-owned mills to re-open after having been mothballed following the collapse in demand in the third-quarter of 2008. The fixed asset investment (FAI) in the steel industry has reached record levels in 2008 with over RMB 324 million (up 26% from 2007) and is likely to further increase in 2009.⁹ It is estimated that during that time over 90% of the funds raised by listed steel companies will have been invested in building new steel sheet production lines.

In January 2009, the Ministry of Industry and Information Technology (MIIT)'s "Steel industry adjustment and revitalization plan" was released. This plan is aimed at, among other things, controlling steel production and eliminating backward capacity by

8) Deutsche Bank, "China Macro Strategy," 29 June 2009.

9) Morgan Stanley August 27, 2009 "China Building Materials".

implementing stricter standards. According to the plan, about 150 million tons of capacity are 'illegal' and this is accounted for by the thousand or so smaller mills in the country (still according to the plan, there are about 1,200 registered steel companies in China, but the top 66 companies already make up 80% of total capacity).¹⁰ At the same time however, the plan calls upon the top ten producers to boost their capacity, either through mergers and acquisitions or through organic capacity expansion. In August 2009, MIIT revealed that it was currently drafting guidelines to speed up M&As in the iron and steel industry, including VAT policies favouring SOEs.¹¹ Some reports indicate success in Hebei province for example, where capacity is set to go from 120 million tons to 80 million tons over the next three years. Unfortunately though, facilities often prove difficult to consolidate or shutdown and many steel producers are in fact simply modernising existing obsolete capacity, instead of shutting it down.

Government steps to curb overcapacity not yet effective

Government policies have primarily targeted small and semi-legal producers (private and local government-owned), which also tend to be more polluting and less energy-efficient. As early as 2004 Beijing started advocating slower growth in the steel sectors, but without any great success. At the time, a booming economy and robust global demand for Chinese steel gave producers and local governments little incentive to follow Beijing's guidance. State-owned steel mills have traditionally viewed long-term market viability as secondary to safeguarding the jobs and economic growth that these projects deliver to their local communities. At the same time, high steel prices fuelled by the domestic development boom and rising global demand attracted new entrants that operate on very thin margins and enjoy a 30%-40% cost advantage compared to their state-owned competitors.

In the bullish market leading up to the financial crisis, government policies aiming to curb the growth of overcapacity in the steel market had little chance of success. The collapse in the global demand for steel after the crisis should have created a perfect environment to reduce capacity in the steel sector. Instead, as has been outlined, the Chinese government's massive stimulus spending efforts have directly contributed to exacerbating overcapacity.

Current drivers of overcapacity in the steel industry

Based on European Chamber research and member interviews, overcapacity in the steel industry is mainly driven by:

- The desire to be self-sufficient, leading to capacity duplication at national level
- Rising demand based on overly optimistic forecasts to support China's development and construction boom
- A combination of SOEs being insensitive to profit/loss and small/dirty/inefficient steel mills that suspend activity when price dips and re-open when the market is more favourable

10) Bloomberg News "China to Study Curbs on Overcapacity in Steel, Cement," August 26th 2009.

11) Bloomberg News "China to Study Curbs on Overcapacity in Steel, Cement," August 26th 2009.



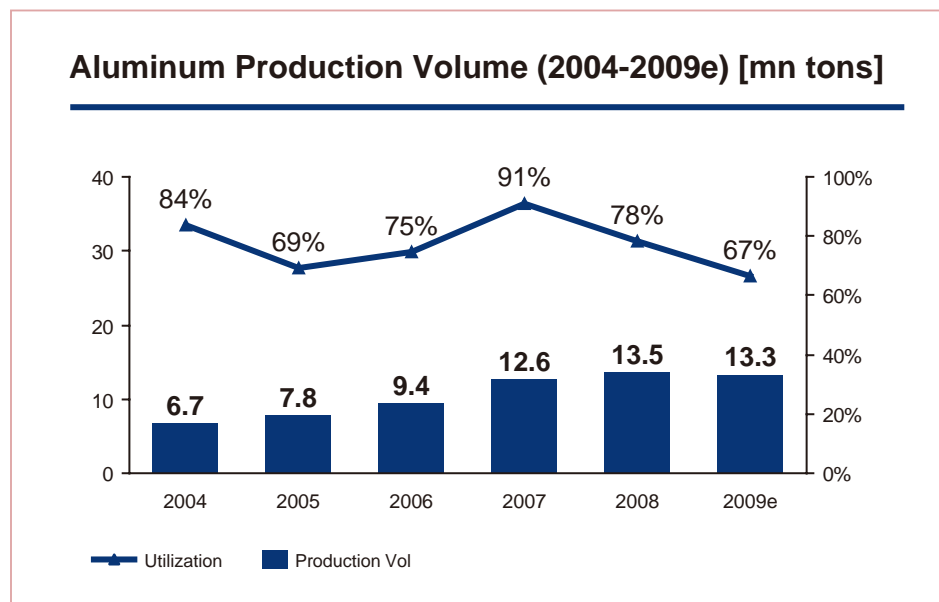
- Adverse effects of stimulus package which encourages large mills to add capacity and makes the small- and medium-sized mills, which the government wants to shutdown, profitable
- Subsidised energy

3.2 Aluminium

China's aluminium industry has witnessed extremely rapid growth over the past decade. China is now the world's leading aluminium producer. This growth story was driven first and foremost by a boom in domestic Chinese and global demand. In turn, this high demand drove prices up and increased returns-on-equity (ROE), making the industry more attractive for investment from SOEs and private companies. Market entry was facilitated by easy availability of technology and favourable access to financing. Combined with subsidised energy costs (which accounts for 20-40% of the cost structure depending on worldwide location), these factors turbo-charged the development of the industry in China (in both primary and extrusion industry segments). This market-driven boom was supported by favourable government policies. SOEs were encouraged to enter the primary aluminium industry segment, despite the sector's high-energy consumption, while private capital was allowed to pour into the manufacturing (extrusion) segment. While both these segments suffer from overcapacity, the following analysis will focus on the primary segment of the Chinese aluminium industry.

Overcapacity in aluminium (2008)
Capacity: 17.2 mn tons
Production: 13.5 mn tons
Utilisation rate: 78%

China's aluminium market is hugely overcrowded, with the primary segment witnessing utilisation rates of around 78% in 2008 (expected to dip to 67% in 2009).



China currently owns nearly 20 million tons capacity of primary aluminium, accounting for about 40% of world capacity, while production in 2008 was below 13.5 million tons, a third of global aluminium production. The capacity utilisation rate of the aluminium smelting industry stands at only 65 % (alumina 67%). The production capacities of alumina and electrolytic aluminium projects under construction, however, still reach 5.6 million and 2 million tons respectively.

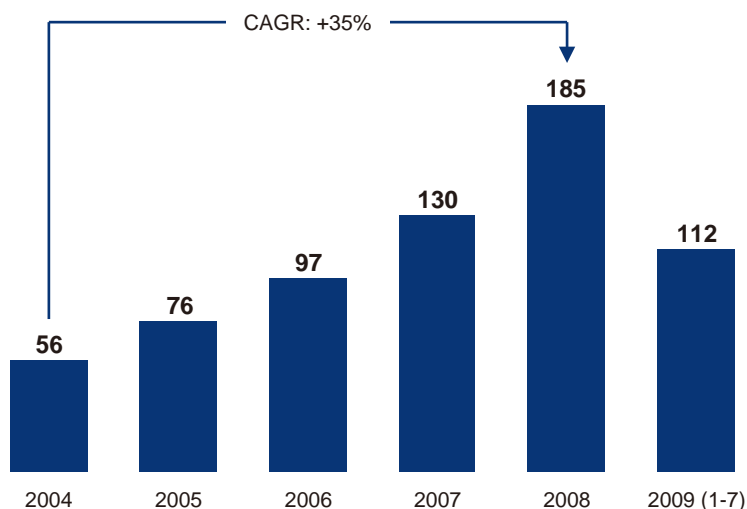
Aggravation of overcapacity in the medium term

Unfortunately, it appears that overcapacity growth will accelerate in the short- and medium-term despite the restrictive policies described above. Utilisation rates in 2009 are projected to experience a big year-on-year drop to 67% from 78%. This trend is expected to continue as new smelting capacity continues to come online and FAI remains stable or grows (see graph below). The impact of government-driven stimulus spending is doubtless having a negative impact in this area in the sense that it is leading to the re-opening of closed facilities and will increase local level investment in the sector. Growing overcapacity is eroding prices and thereby compounding the effects of the global downturn. For example CHINALCO announced that price drops resulted in a RMB 27.98 billion drop in turnover, which represented a year-on-year decrease of 29%.

Members say:

“ Over 70% of Chinese extruded aluminium consumption goes to construction so recent government stimulus efforts are going to further expansion of aluminium [over]capacity. ”

Non-ferrous FAI Growth [RMB bn]



Sources: CEIC, Morgan Stanley Research.



Overcapacity is not a new problem for China's aluminium industry. As early as 2002, at the beginning of the Chinese aluminium boom, the central government released a series of policies in response to "excessive" investment in the sector. However, the capital-intensive primary industry segment is predominantly controlled by provincial and municipal governments whose policy priorities lie, first and foremost, with driving local GDP, employment and tax revenues.

The global economic downturn has made overcapacity in the aluminium sector more prominent, prompting the central government to introduce a set of corrective measures. In March 2009, the central government issued a requirement for local administrations to stop subsidising electricity prices for aluminium smelters without central government approval. This move aims to encourage consolidation in the industry by favouring larger (often state-owned) producers, and in theory to reduce capacity by forcing smaller operations to shut down. In May 2009, the State Council announced a three-year ban on new capacity and a removal of small plants with a combined capacity of 800,000 tons by 2010, as well as an increase in the standards for energy consumption and greenhouse gas emissions. Recently announced plans for the development and adjustment of the non-ferrous metals industry also indicate that any new construction or reconstruction aluminium project will not be permitted, and that consolidation in the industry will be encouraged instead.

Current drivers of overcapacity in the aluminium industry:

Based on European Chamber research and member interviews, overcapacity in the aluminium industry is mostly driven by:

- Market forces: High prices prior to the crisis attracted SOEs and private investment into the sector
- Subsidised energy (20-40% of cost structure depending on worldwide footprint and overheads)
- Easy access to technology and funding
- Stimulus spending in construction fuels an expansion in capacity in up-stream industries such as aluminium

3.3 Cement

In 2008, China's cement production accounted for half of global output and was eight times larger than the second-largest producer, India. Being the most populous nation in the world with an urbanisation rate in the 42-50% range,¹² China is in the midst of a huge urbanisation process that requires the construction of unprecedented amounts of urban housing and infrastructure. Despite this massive demand, the Chinese cement industry suffers from overcapacity and projections point to a looming deluge of new capacity due to come on-stream over the next few years.

China's cement capacity in 2008 was 1.64 billion tons per year, while total production was 1.38 billion tons annually resulting in an utilisation rate of 84%. China's cement industry is composed of large state-owned companies and a plethora of very small producers. At

Overcapacity in cement (2008)

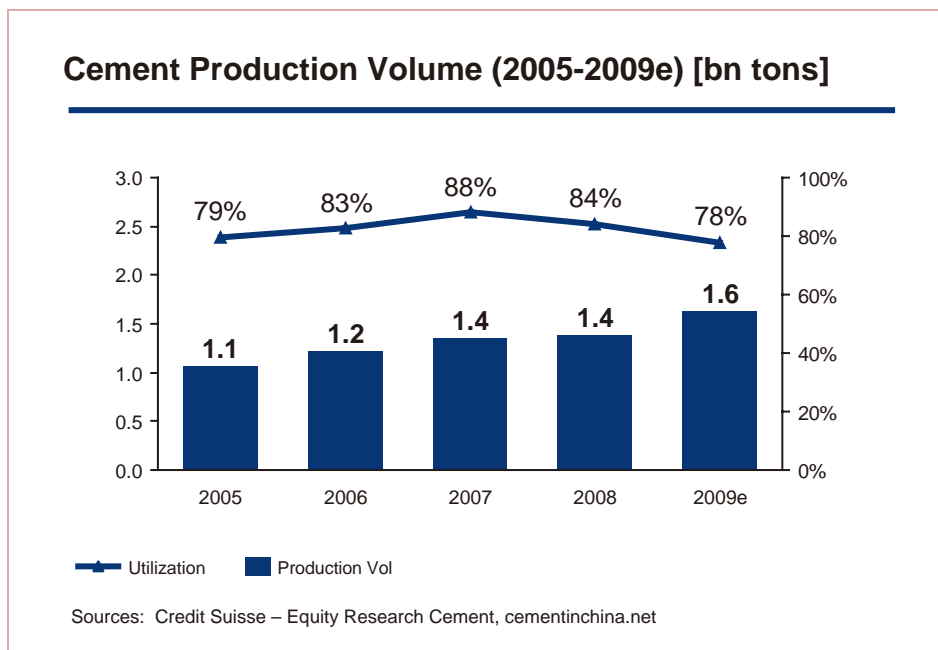
Capacity: 1.64 bn tons

Production: 1.38 bn tons

Utilisation rate: 84%

12) Standard Chartered Bank "China – Urban combat", 21 October, 2009.

the same time, the cement industry is going through a technology change from smaller, more polluting vertical kilns – mostly used by smaller producers – to larger more energy efficient new suspension pre-heater (NSP) kilns generally deployed by larger producers.

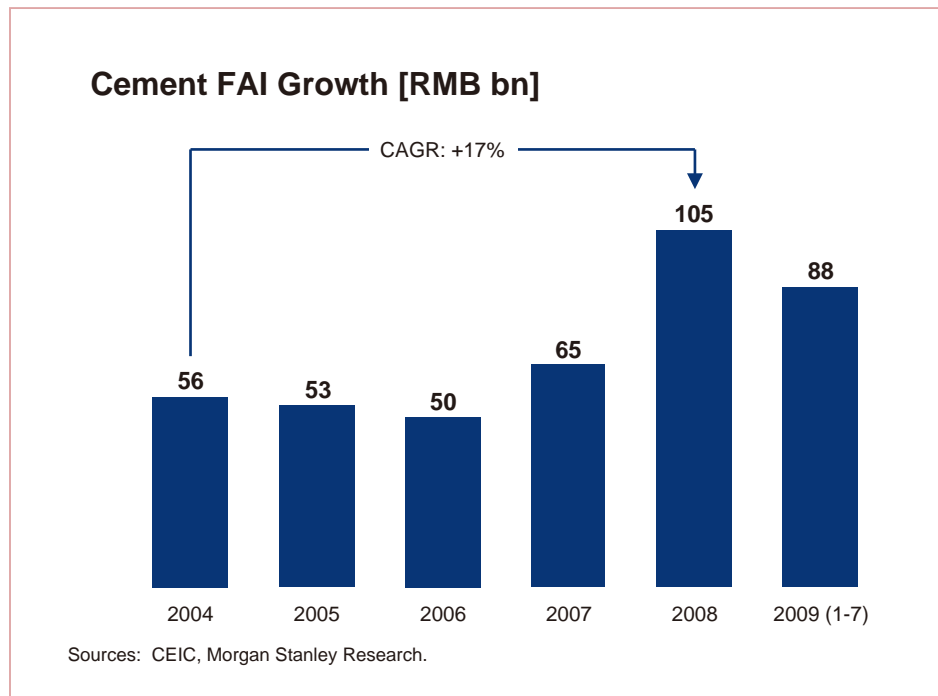


Rapid aggravation of overcapacity in the short- and medium-term

Investment in the cement industry amounted to RMB 88.16 billion in the first seven months of 2009, up 66% year-on-year and another 0.21 billion tons is in the pipeline (approved but not yet started). If all new lines that are currently planned come on stream, China's cement capacity would reach 2.7 billion metric tons per year. Demand only exists, however, for 1.6 billion metric tons. China will then face more than 1 billion tons of overcapacity.

“ As China's urbanization progresses and annual cement consumption per capita drops, the Chinese cement industry will need to adjust. The question is how fast: if this happens in the next five years or less, it will be a bloodbath because of all the existing and additional planned capacities. ”

13) Credit Suisse: China Cement Sector, October 2009.



Steps taken to curb overcapacity

Although there is already overcapacity in China's cement sector, it is the huge projected overcapacity which has elicited government action. The NDRC and MIIT have jointly ratified an industry directory proposal to phase out 600 million tons of backward small vertical kiln capacity between 2010 and 2012. The move will involve more than 3,000 small domestic enterprises.¹⁴ The NDRC issued guidelines at the end of September 2009 to curb overcapacity in China's cement industry. The policy would suspend indefinitely the construction of all planned cement lines for which construction had not yet begun, even if they had previously received formal approval from NDRC. The guidelines also contained a set of measures and energy efficiency standards aiming at accelerating consolidation of the industry and the transition from vertical to NSP technology.¹⁵ Furthermore, the policy mandated that any new capacity must be met by equivalent cuts in outdated capacity. Finally, provinces with more than one ton of cement per capita will not be granted new licenses for cement lines.

Current drivers of overcapacity in cement industry

Based on European Chamber research and member interviews, overcapacity in the industry is mostly driven by:

- Urbanisation: China is undergoing the largest urbanisation process in human

14) It should be noted that this accelerated closure plan is not included in the utilisation rates in the figures above.

15) It shChen, C. and Tsai, Y, Taiwan Cement Industry: China Steps Up Efforts to Curb Overinvestment, Morgan Stanley Research, September 30, 2009.

- history, fuelling a massive demand for urban housing
- Transition to NSP technology, with vertical kiln capacity not being shutdown in a timely manner, creating a capacity 'lag'
 - Scale vital in the sector and production is highly localised in clusters (high overcapacity in some provinces such as Zhejiang or post-earthquake Sichuan, while no overcapacity in others)

3.4 Chemicals

China's chemical industry is vast, complex and highly segmented, and company input was much more complex and varied than for other industry sectors. This is reflected in the slightly different structure of this section.

The development of China's petroleum and petrochemical industry has undergone massive changes over recent years. The sector has struggled to keep up pace with the rapid development of China's economy. The chemical industry is the third-largest in China (after textiles and machinery) and accounts for roughly 10% of the country's GDP. China's consumption accounts for over 35% of the global demand growth for chemicals. The petroleum and petrochemical industries have undergone massive changes over recent years, and the sector has struggled to keep up pace with the rapid development of China's economy.

Growth in China's chemicals industry fell dramatically in 2008 and early 2009 when compared with previous years' growth rates. With that said, it remained positive and chemicals production is expected to perform strongly from next year thanks in part to the positive impact of the massive economic stimulus package. Another reason is the huge lending increase in the first half of 2009. Since it serves as a major supplier for many other industries, the chemicals industry not only benefits from the recovering demand for chemicals used in industrial production but also from positive demand effects coming from end-users.

The Chinese Chemical association, China Petroleum & Chemical Industry Association (CPCIA), has examined the overall situation of petrochemicals and chemicals in China and concludes that:

- 50% are in a balanced supply and demand situation
- 30% of products are in short supply
- 20% of products have overcapacity problems¹⁶

This overcapacity in some segments of the chemical industry has led many domestic producers to seek protection against imports. This is reflected in the huge overrepresentation of the chemicals sector in current Chinese anti-dumping cases against foreign importers – in fact the chemicals industry accounts for more than half of all cases.

16) Chinese Chemical association China Petroleum & Chemical Industry Association (CPCIA) website, last visited November 11th 2009, http://www.cpcia.org.cn/html/news/20094/65294_5580.shtml.



**Overcapacity in percent in various segments of China's chemical industry
(UNITS PRODUCED VERSUS CAPACITY IN UNITS):¹⁷**

<i>Glyphosate – Agrochemical:</i>	129%
<i>Phosphate fertilizers:</i>	40%
<i>Urea:</i>	40%
<i>Soda ash:</i>	27.4%
<i>Caustic soda:</i>	33.4%
<i>Sulfuric acid:</i>	25.2%
<i>Coke:</i>	> 30%
<i>Yellow phosphorous:</i>	61.8%
<i>BDO(1,4-butanediol):</i>	83%
<i>PTHF(polytetrahydrofuran) :</i>	37%
<i>Formic Acid:</i>	65%
<i>Methylamine (MA):</i>	68%
<i>Dimethylformamide (DMF):</i>	90%
<i>Dimethyl ether (DME)</i>	60%
<i>Rubber Antioxidants</i>	113%

Coal-to-chemicals

Taking into account China's natural energy conditions (large quantities of coal and less oil) and global oil prices, China's government made the strategic choice to develop coal-to-chemical and coal-liquefaction projects. These projects should reduce China's dependence on imported crude oil. China leads the way in the effort to substitute coal for oil. Holding the third-largest reserves of coal in the world and facing an almost insatiable thirst for energy, China is pouring huge amounts of capital into coal conversion projects aimed at converting coal into a wide range of feedstocks (MEG), some of which are intended for use in the chemical industry.

At present, China is the world's largest coal chemical industry base, with an annual production output of coke of nearly 300 million tons, 11.8 million tons of calcium carbide, and synthetic ammonia over 49.4 million tons. Such massive output figures ensure that China is the world leader in each of these sectors.

Overcapacity in the coal-to-chemical industry, a potentially highly polluting and water-consuming sector, stood at around 30% in 2009. Installed methanol capacity reached 20 million tons in 2008, but the output was only 11.26 million tons. In the first half of 2009, only about 40% of the coal-to-methanol facilities were in operation. Plans to utilise methanol capacities in methanol-to-olefin downstream projects might further contribute to overcapacities in products like MEG.

*Methanol Overcapacity
(2008):*

Capacity: 20m tons

Production: 11.26

Utilisation rate: 56.3%

17) Chinese Chemical association China Petroleum & Chemical Industry Association (CPCIA) website, last visited November 11th 2009, http://www.cpcia.org.cn/html/news/20094/65294_5580.shtml.

Ethylene derivatives

Ethylene is the building block for many of the key thermoplastics and organic chemicals vital for manufacturing. For the past years, global compound annual capacity growth has stood at around 5%. Capacity is growing in the Middle East, especially in Saudi Arabia and Iran, largely because of the proximity of cheap raw materials, and in China. Capacity is being built up despite existing and projected global overcapacity.

The Middle East takes pole position in terms of ethylene tonnage capacity expansion. By 2010, capacity will have expanded to 20.4 million tons compared to 2004 levels. Asia, meaning primarily China, follows closely behind. It is forecast to expand capacity to 15.9 million tons in the same period. Asia has been a net importer of ethylene derivatives and will remain a net importer of ethylene derivatives through 2010. These new production capacities in the Middle East and China will lead to an increasing oversupply of derivatives. Global cracker utilisation rates will continue to stay well below 90%. Highly competitive ethane gas has led to numerous cracker investments in the Middle East, with polyethylene and MEG being the key ethylene derivatives. The reason for this development is the ease of transportation and big markets in Asia, which is the largest MEG consumer accounting for 60% of global consumption. The substantial cost advantage enjoyed by Middle Eastern producers, who can use natural gas as feedstock and are geographically well placed between Europe and Asia, suggests that Asian-based chemical producers have a tough challenge ahead of them. New entrants, in particular, will find it difficult to compete.

A 2009 Morgan Stanley report forecast that global ethylene capacity would hit 148.5 million tons by the end of 2010, outstripping the estimated demand of 122.3 million tons that year. Capacity growth would exceed increases in demand each year in the 2008 to 2010 period. According to estimates by Chemical Market Associates Inc. (CMAI), global ethylene capacity will increase by 8.7 million tons, 9.1 million tons, 5.4 million tons, and 5.1 million tons through 2009-12. Average demand growth, however, is estimated at 5.5 million tons annually.

It is precisely in this overcrowded global environment that China is actively expanding capacity. China is currently the only net importer of ethylene derivatives in Asia. While it imports mainly from the Taiwan region and Korea, it wants to achieve self-sufficiency in chemicals.¹⁸ In late 2009 petrochemical data for China continues to show strong domestic production increases, due to the start-ups of the large crackers in Fujian and Dushanzhi. These have a total annual capacity of 1.7 million tons. This trend will continue in 2010. Production start-ups from Tianjin and the Zhenhai crackers will lead to substantial additional overcapacity in ethylene derivatives.

Overcapacity in ethylene (2008)
Capacity: 13.5 mn tons
Production: 10.4 mn tons
Utilisation rate: 77%

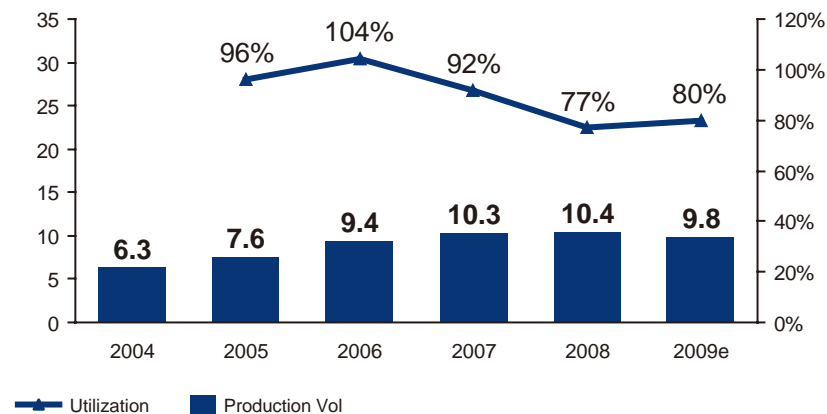
Members Say:

“ The key is to get provincial/local governments under control as they are fighting for their development and also personal future. ”

18) Imports from Korea to China account for 48% of total China PTA imports, 35% for PP, and 20% for PE. Imports from Taiwan account for 35% of total China PTA imports, 26% for MEG, and 18% for PP, according to HSBC Natural Gas & Resources, China, Taiwan, Korea, April 9, 2009.



Chemicals Ethylene-Production Volume (2004-2009e) [mn tons]



Sources: Statistics Report, Open Resource, Roland Berger Analysis

PVC

Chinese PVC producers continue to face strong margin pressures due to oversupply and weak demand. Already in 2006 calcium carbide suffered from 17 million tons/a overcapacity. The current capacity of PVC producers based on calcium carbide exceeds 10.5 million t/a, which translates into overcapacity of 41.2%. PVC producers' margins peaked in 2008 and lower margins should be expected beyond 2009. The new capacities in China will lower the overall operating rate in Asia.

Polyester and feedstock

Demand from the United States and the European Union for textiles and apparel has been the key to robust demand growth in polyester in recent years. Textile and apparel export growth had a CAGR of 19% from 2000 to 2007, but it slowed to 8% in 2008. The significance of the US and EU markets for China's textile industry cannot be overestimated: China's textile exports accounted for 30% of total polyester production in China in 2008. In the early part of 2009, China wanted to help the ailing industry by increasing export rebates. Since weak demand in the United States and European Union is the core issue, increased export rebates could not help textile and apparel exports.

Polyester and feedstock (PTA and MEG) product margins have been depressed by

aggressive capacity additions in the region over the past few years. If demand for polyester in China continues to slow, producers in the region will have to run at a lower utilisation rate. It would take a long time for polyester margins to recover. MEG overcapacity in 2009 was 15.9%. MEG margins shrunk significantly in 2009 and will remain depressed in 2010. New MEG capacity in the Middle East will make it even more difficult for margins to recover.

Initial government steps to curb overcapacity

In light of these various and mounting overcapacity challenges, the central government has started to take steps to rein in overinvestment in some areas of the chemical sector. In the coal-to-chemical sector, the State Council started taking action in 2006, by setting the minimum size for new plants to 1 million tons/year. However, many smaller plants exist below 300,000-600,000 tons/year. These less efficient and more pollution-intensive plants are either owned by private companies operating outside the law, or by local governments keen on driving local GDP growth. In the coal-to-chemical field in particular, capacity additions are often promoted by local governments. Many project approvals require “resources coal on site” ratios between 50-60% to promote local economies. MIIT is expected to become much stricter in the coming years. Permission to build new production facilities and to expand existing capacities for certain products will be granted only to those manufacturers who receive direct approval from MIIT. Increasing manufacturing capacities for products which are currently in oversupply will not be allowed, unless new technologies are employed.

Key drivers to overcapacity in the chemical sector

Based on European Chamber research and member interviews, overcapacity in the chemical industry is mostly driven by:

- The desire for self-sufficiency, despite existing global overcapacities
- Fragmented industry, with many small players operating outside state supervision
- High oil prices and an abundance of coal driven overcapacities in coal-to-chemical sector
- Local governments promoting chemical industry to stimulate up-stream (mining in the case of coal-to-chemical) and/or downstream economic activity in the area
- Engineers fulfilling their plant ‘dreams’ and disregarding market demand

3.5 Refining

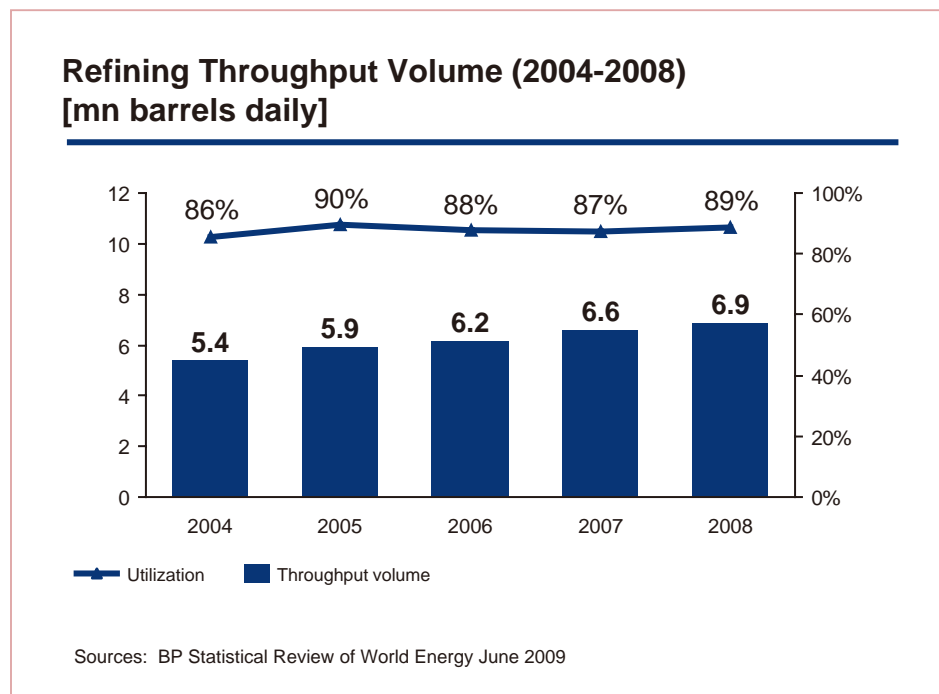
Measured by overall throughput, China is the second-largest oil refining country in the world, behind only the United States. However, China's oil refining industry has been troubled by a surplus in total capacity for years. China's daily refining capacity was 7.7 million barrels in 2008, its throughput 6.9 million barrels, which means that refineries were operating at 89% of capacity. In very capital-intensive industries like the refining

*China refining industry
Capacity: 7.7 mn tons
per year
Production: 6.9 mn
tons per year
Utilization rate:
89.6%*



industry, a comparatively high utilisation of slightly below 90% can already be considered as an avoidable waste given the considerable resources involved. It is also important to note that this operating rate could well be generous as small (permanently underutilised) refineries are often not covered by official statistics.

The total capacity of these small refineries makes up about 20% of China's entire capacity. These so-called 'teapot' refineries are mainly located in Shandong, Liaoning, Henan and Guangdong. The diesel fuel produced by these facilities, which is usually of below-average quality, is often used to power farm machinery and industrial stoves as these do not require high quality fuel. There is evidence that the utilisation rates for these 'teapot' refineries are currently desperately low in some areas: CBI China recently reported rates as low as 5-7% in Guangdong.



Government steps to curb overcapacity

To accelerate structural changes and improve the global competitiveness of the oil and petrochemical industries, the NDRC announced in early May 2009 that the country would carry out plans to eliminate small, obsolete refining facilities over the next years. It aims to close down low-efficiency, low-quality refining facilities of less than 20,000 barrels per day (bpd) by 2011. The commission also encourages the closure, merger or transformation of refining facilities with capacities of up to 40,000 bpd.

To survive the government's restructuring plan, some small refining companies are

already looking to merge with other state- or private-owned operators to increase economies of scale.

Still a strong increase in capacities

The new regulations pushing industry consolidation have one major negative side-effect. Domestic refiners, especially small refineries, are likely to heavily increase their investments. As these refineries attempt to scale-up to reach a size necessary to avoid closure or acquisition, the capacity of these small refineries is likely to be increased by 250,000 bpd. These investments are often made by local governments or facilitated by them through preferential loans by local banks. For their part, local governments are simply trying to protect what is often a key local industry in terms of local GDP, employment, and tax contributions.

Even when these planned 'teapot' refineries are closed, China is still projected to increase its national refining capacity by more than 60% until 2015. New refinery projects are due in 2009 and 2010. The total throughput volume is planned to exceed 500 million tons of crude oil a year in 2010.

Current drivers of overcapacity in refining industry

Based on European Chamber research and member interviews, overcapacity in the refining industry is mostly driven by:

- The desire for self-sufficiency, as China tries to be less reliant on foreign countries, even if they already have enough capacity
- The small refineries create the bulk of revenue and thousands of jobs for local governments, so closure is prevented by all available means

3.6 Wind power equipment

China's wind energy industry has developed at breath-taking speed over the past few years and is now the fourth-largest in the world, accounting for 10% of the global total. China's wind power capacity almost doubled every year between 2004 and 2008, reaching 12.2 GW by 2008 and becoming the world's fourth-largest installed wind base. Installed windpark capacity in 2008 alone was 6.3 GW, making 2008 the fourth consecutive year in which domestic wind capacity doubled.

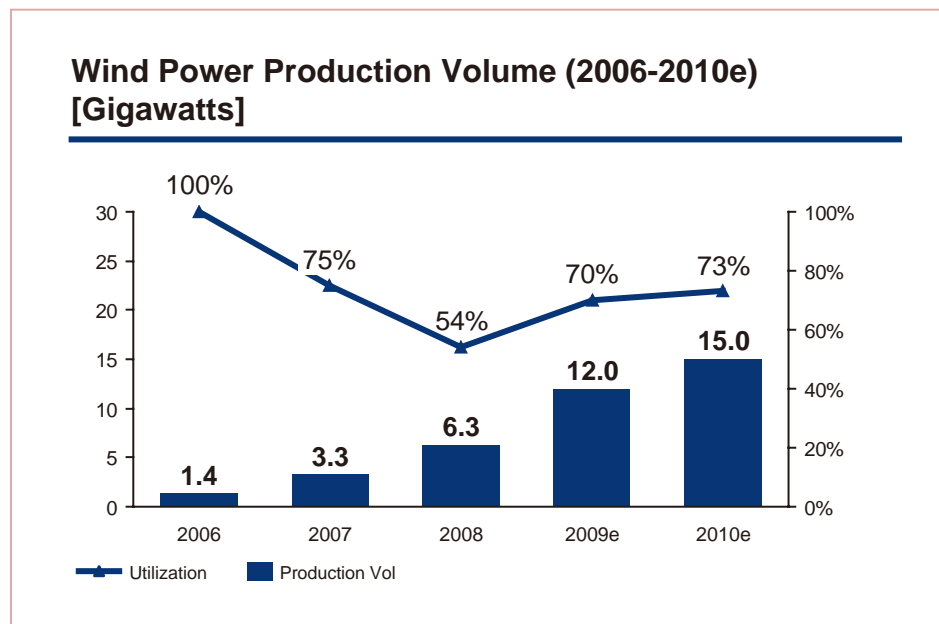
In addition to government economic stimulus spending in 2008 and 2009, this result is the product of supportive industrial policies aimed at boosting the development of this "strategic" clean industry for environmental reasons over many years. IHS CERA expects China to add 7–10 GW of new installed windpark capacity per year for the next three years.¹⁹

19) IHS CERA Report, Feeding the Dragon: China's Energy Future.



To cater to this demand structure, China currently has 70-80 wind power equipment manufacturing factories. China's wind power industry can be segmented into three parts: 7-8 leading SOEs, approximately 70 small, new entrants and a handful of international players. Only the SOEs and foreign-invested companies operate nationwide, re-enforcing the fragmented nature of the industry. The combined output of wind power equipment has already exceeded domestic market demand.

Installed production capacity for wind power equipment (e.g. turbines) in 2008 was 6.3 GW, with an estimated overcapacity of 46%. Estimated wind power equipment manufacturing capacity plans amount to more than 5 GW of additions in 2009, pushing total cumulative manufacturing capacity to more than 17 GW during the year. By 2011 there could be more than 10 GW of overcapacity domestically if suppliers bring announced additions online as scheduled. This could cause overcapacity of up to 50%. Much of this overcapacity in production stems from the new entrants whose products often have not yet been put to the test.



Rapid aggravation of overcapacity in the short- and long-term

The long term target of the Chinese government is to make wind power competitive with conventional power technology by 2020 and become the third major source of electricity following hydro and fossil fuels. This ambitious goal has attracted large investments from the Chinese government and international wind power equipment makers. It has attracted numerous new (often privately-owned) entrants, too, and will doubtless continue to do so.

Members say:

“Overcapacity caused by new entrants in the wind energy segment is driving down margins, dragging down quality and might threaten the viability of the sector as a whole.”

Estimated manufacturing capacity plans amount to almost 5 GW of additions in 2009, pushing total manufacturing capacity to more than 16 GW during the year. This greatly exceeds turbine demand of only 10 GW. By 2011 there could be more than 10 GW of overcapacity domestically if suppliers bring these additions online as scheduled. This could cause overcapacity of about 50%. The bulk of these near-term manufacturing capacity additions will come from leading domestic brands such as Sinovel, Goldwind, and Dongfang Electric as well as new domestic entrants that have announced plans to start making wind turbines.

High policy targets, which will necessitate massive and sustained procurement efforts for years to come, will continue to drive (over)capacity expansion in the wind power manufacturing sector for the foreseeable future. Leading SOEs will continue to expand capacity in order to meet the demands of the procurement projects granted to them by central authorities. At the same time, new entrants will continue to enter the market and develop capacities in order to cash in on the promise of provincial and municipal wind power development projects.

As IHS CERA research points out, not all wind turbines in China are created equal. Some local brands of turbines have lower utilisation rates than those produced by leading Chinese and international suppliers, owing to frequent technical difficulties, longer testing periods, less efficient technology, and poor post-sale customer service. Some international players have started customising turbine designs to better capture the prevailing wind patterns in specific regions in China, or target more technically challenging segments like the off-shore wind market. As IHS CERA indicated in a report that a “wind turbine bubble” is looming and will lead to industry consolidation and greater turbine exports. While long-term prospects for wind power remain strong, the short-term overcapacity will lead to a sector shakeup.²⁰

Government steps to curb overcapacity not yet effective

The Chinese government is concerned that its country’s wind power equipment sector has too many small companies and that this fragmentation puts it at a disadvantage against major international firms. The government decided on new rules to reduce excess capacity. These include:

1. No new wind power machine factories are allowed to be built.
2. Requiring investors to use wind power machines manufactured in local places or to invest into any new project of wind power machines is strictly banned.

20) IHS CERA Report, Industry Shakeup Ahead for China’s Wind Turbine Manufacturing Sector as Surplus Capacity Emerges, Beijing June 2009.



3. Products of backward technology are not permitted to enter the market. Standards for testing wind power machines, quality control and qualified systems will be established.
4. Greater support will be given to R&D on >2.5 megawatts wind power machines and key parts such as bearing and control systems.

The long-term target of the Chinese government is to make wind power more competitive with conventional power technology by 2020 and become the third major source of electricity generation following hydro and fossil fuels. China has to come to grips with a massive overcapacity problem in the turbine manufacturing segment. With power developers and government regulators paying more attention to the quality of products and services (especially timely maintenance services), the turbine manufacturing segment is facing major changes.

Current drivers of overcapacity in wind power equipment:

Based on European Chamber research and member interviews, overcapacity in the wind power equipment industry is mostly driven by:

- Government measures to make wind power competitive with more conventional power technologies
- Several major players' overly optimistic high investments based on strong past market growth and past profit margins

Overcapacity in other renewable energy sectors: the case of the Photovoltaic (PV) sector

Driven by the global boom, China's solar cell production has developed rapidly over the past three years, with an output CAGR of 144% from 2007 to 2009. China's photovoltaic export value reached RMB 150 billion in 2008, turning China into the world's No. 1 producer.

However, the domestic industry is facing serious overcapacity problems caused in large part by polycrystalline silicon, an important input for solar power batteries. Polycrystalline silicon production capacity hit approximately 20,000 tons in 2008, but output was only 4,000 tons. This means its utilisation rate was only 20%. Recent estimations forecast demand to reach 12,500 tons in 2009. To make matters worse, an additional 80,000 tons of capacity might be under construction, indicating evident overcapacity. Unclear industrial policies, lack of overall planning and a low access threshold have accelerated random investment in the industry. This will severely impact the PV industry's sustainable development.

In September 2009, China's central government listed polycrystalline silicon as an overcapacity industry. Strictly supervising industrial market access, strengthening environmental monitoring and project approvals, and implementing an accountability system are steps proposed to ensure the healthy development of this sector. Steps need to be taken to avoid excessive competition and to reduce emissions and achieve energy savings, especially since the PV production process tends to be environmentally unfriendly.

4 Overcapacity causes domestic and global problems

The primary victim of China's overcapacity is the Chinese economy itself. However, it is not the only victim. Since industries in other regions of the world are also affected by the extra capacity in China's system, the global economy in turn suffers as tensions between China and its trading partners increases.

4.1 Impact on the Chinese economy

The extremely low utilisation rates of industries with overcapacity means resources are being wasted. Companies with overcapacity are forced to reduce their costs in order to keep profit margins. Often reducing costs is not enough. Companies in this situation might feel forced to cut corners, disregard environmental, health and safety standards and circumvent labour and social laws. In practical terms, overcapacity contributes to slower wage growth and may increase inequalities between provinces, with the low income segment hurt most.

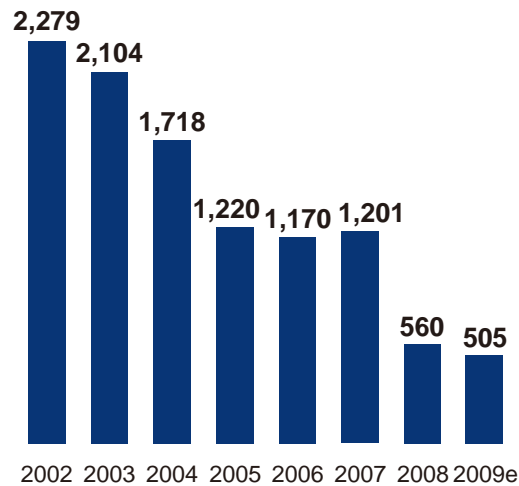
As companies in overcapacity industries suffer from low profits, they lack sufficient cash for R&D projects, which leads to less innovation. Since they cannot move up their value chain, affected companies are forced to further increase capacity in the hope of increasing their overall competitive situation. This is a major obstacle on the government's path to become both an innovative and sustainable economy.

At the same time, the threat of mounting non-performing loans looms ever larger. Companies in overcapacity industries suffer from low profits and thus will find it difficult to service interest payments, let alone repay loans. (And as highlighted already above, it is precisely into these capital intensive industries that a significant amount of the current flood of bank lending is flowing.) As the NPLs of Chinese commercial banks have been successfully decreased during the last decade by transferring them to state-owned asset management corporations (see chart), China is now at risk of revisiting the 1990s NPL problem.

If NPLs rise significantly, as most observers expect, Chinese regulators will once again be forced to recapitalize the banks, as they have in the past. This they are likely to do primarily by maintaining a wide spread between lending and deposit rates, so as to ensure the banks with sufficient profitability to grow their capital base. Unfortunately this will represent a significant future transfer from the household sector, in form of abnormally low returns on savings deposits. By constraining the growth of household income in favor of subsidizing uneconomic investment decisions, there will be increasing pressure on the already-large gap between consumption and production to grow further.



Non performing loans [bn RMB]



Sources: China Banking Regulatory Commission.

4.2 Global impact: Trade tensions

How does this affect trade tensions? Overcapacity in China directly impacts the level of trade tensions among global players. Managing overcapacity must be part of any global adjustment plan agreed upon by China and the United States. If the rising savings rate in the United States is not met by rising Chinese or foreign consumption or rising global investment, one or possibly both of the adjustments discussed below will have to be made.

1. Although the household savings rate rises in the United States, there is actually no increase in total US savings. This seemingly paradoxical outcome might occur at first because of a sharp rise in government borrowing. A continuous rise in government borrowing, however, is neither sustainable nor in the best interests of the medium-term rebalancing of the US economy. The alternative way is for US GDP to shrink. Although Americans sharply reduce their consumption, this is balanced by the decline in their total income, and there is consequently no increase in savings.
2. Chinese economic growth slows sharply, and begins to grow less quickly than consumption, which will automatically cause a decline in the savings rate. Over the past years, Chinese consumption has grown at a healthy 8-9% annually, while GDP grew by 10-12%. By definition this resulted in a growing savings rate. In order to reduce growth in Chinese savings, China's GDP growth rate will have to drop significantly below its rate of consumption growth. Even if we assume, somewhat

heroically, that a sharp decline in GDP growth will not reduce consumption growth rates, this suggests that China's GDP will grow at rates of below 7-8%.

Which of these outcomes is the most likely? That depends to a large extent on government policies in both countries, especially in relation to trade. The attitude the United States takes towards its trade deficit, and to a lesser extent Europe's attitude towards absorbing part of this deficit, are key factors in determining how the burden of the post-crisis global adjustment is distributed. With unemployment rising in Europe and the United States, it is hard to see that either country will be willing to absorb much more of the cost of the adjustment. This will make discussions over trade harder than ever.



5 Recommendations

Having outlined above the historical, political and economic problems that have led to overcapacity across industries, and the impact that this is having on an industry-by-industry basis, this section of the study will offer a series of recommendations for the Chinese government to bring this issue under control.

The recommendations in this section are based on the knowledge and experience of the members of the European Chamber – European companies active across China – and represent a summary of their views about overcapacity and related issues in their individual industries. These recommendations take into account the substantial reforms introduced by the Chinese authorities as well as businesses' past experience in coping with overcapacity in other markets. The European Chamber's goal in providing this input is to promote an open and constructive dialogue with Chinese authorities in order to initiate and pursue necessary structural changes to reduce overcapacity and drive China's economy on to a new level of sustainable growth.

It is important to note at this point that the Chinese government has already taken a number of important measures to rein in industrial overcapacity.

In a welcome statement on September 26, 2009, ten ministries working under the umbrella of the NDRC noted that the following industries were problematic and required immediate attention: steel, cement, flat glass, coal chemical industry, polycrystalline silicon and wind power energy as well as some elements of the electrolytic aluminium, shipbuilding and soybean crushing industries (Guofa No.38 [2009]).

In response to the problems, the NDRC-led group announced the following primary measures:

1. Controlled industry sector growth (increment) including inventory optimization (support consolidation process, international competition, technical progress)
2. Guidance and maintained political pressure for industries that pollute and consume high amounts of energy, such as steel and cement; improve new industries' capacity to innovate
3. Foster new industries while upgrading conventional industries (international competition and sustainable development)
4. Market-led in conjunction with macroeconomic regulation (coordination, analysis, and regulation)

At the same time, specific industry guidance measures have been issued, and they include:

- Strictly control market access
- Strengthen environmental protection supervision

- Introduce regulations and codes for land supply
- Improve financial supervision and control
- Improve project approval administration
- Encourage corporate mergers and reorganisation
- Create an information release system to monitor industrial output and utilisation
- Develop accountability systems for local authorities
- Deepen system reform (fiscal and taxation system)

Meanwhile, the government has also recently moved to cut off land supply for projects that fail to meet certain pre-defined, publicly available industrial policies, another measure that should serve to reduce overcapacity. The Ministry of Land and Resources announced in October 2009 that local land and resources offices had been ordered to better plan and control land use.

Industries including iron and steel, cement, electrolytic aluminium, plate glass, coal chemicals, polysilicon, wind power equipment and dock berths will not receive more land for further development. Instead high tech, high added value, low cost and low emission industries will be given the land they need. The notice also requires local authorities to keep a closer eye on farming land that is applied for industrial use.

These are important and timely measures, and the European Chamber and the European business community welcomes this effort.

Nevertheless, much more remains to be done to tackle this massive problem. In the next several sections, the European Chamber offers further recommendations as additional remedies to curb overcapacity. Some of these measures are relatively straightforward, and can be implemented as long as the political will exists to do so. Others are much more complex and require implementing broader and deeper structural changes to China's economy. And the first of our recommendations focuses on how change can be driven through international political and economic coordination.

5.1 International coordination

On the international stage, further efforts and coordination will be needed by all major players including China, the European Union and the United States. The world needs serious policy coordination to avoid escalating an already difficult economic transition for China as US savings rates rise.

How would this policy coordination work? Beijing, Washington and Brussels should work out a multi-year plan in which China commits itself to taking the necessary and difficult steps towards rebalancing its economy and reducing its net exports. In exchange for raising interest rates, liberalising the financial system, raising workers' wages, reforming land ownership and revaluing the currency, the European Union and United States would commit themselves to boosting domestic investment to prevent demand slowing and to keep markets open for Chinese exports while it is managing the transition.



In China, these policies will have the effect of transferring income away from the corporate and state sectors and back to Chinese households, thus allowing Chinese consumption to grow relative to the economy. These policies, however, come at a significant cost. China's manufacturing sector is thoroughly addicted to a variety of subsidies provided indirectly by households. Removing these subsidies will be painful. Businesses will struggle as they adjust to a more competitive world.

Still, this seems to be the best option available. China's growth model requires that external demand - the European Union and the United States - be able to absorb the overcapacity it produces. If the United States is serious about raising its savings rate and correcting domestic imbalances, China's growth model will have outlived its usefulness as the European Union (already China's number one customer) will not be able to absorb the difference. The transition will be difficult but necessary. Chinese consumption must grow relative to the overall economy if it is to drive China's economic growth. That can only happen if household income grows more quickly than the economy for several years.

The process will be difficult even in the best of cases, but without coordination the world will adjust to changes in the global imbalances in unpredictable ways, and increased trade tensions are pre-programmed. This will hurt all countries.

International experience tells us that it is very important to avoid exporting overcapacity (steel, shipbuilding, chemicals, etc.) in an attempt to prevent trade frictions that harm the political atmosphere and interrupt supply chains.

Recommendations:

- *Support rebalancing process in an international coordination of reforms*
- *Take necessary policy steps to avoid surging exports*

5.2 Stimulating domestic consumption and reducing investments

Chinese companies active in sectors suffering from overcapacity will need to reduce their capacity as long as global utilisation rates are very low. Chinese companies must substantially reduce capital expenditure ('capex') at the corporate level over the coming years.

The automotive sector provides a good example of a successful adjustment. Passenger vehicle capacity grew on average by a whopping 40% annually from 2002 to 2005, with sharply falling utilisation rates over that period. Slowing new investment translated into capacity growth of only 10% year-on-year (Y o Y) in 2007. The car pricing war on the mainland, which began in 2004, ended in mid-2007, with prices now stable or rising in most sedan categories after cumulative 25-30% declines in the three years leading up to mid-2007.

According to an IMF report, China's GDP grew by 7.7% in the first nine months of 2009, while exports were still extremely weak. This illustrates that the mainland economy is not necessarily export led.²¹ Net exports delivered a -47% contribution to GDP growth in the first

21) National Bureau of Statistics,
http://www.stats.gov.cn/english/newsandcomingevents/t20091022_402595245.htm

three quarters, while final consumption accounted for 52% of growth and investment 95% as stated in a CSLA research report. Higher levels of domestic consumption will require greater government investment in social welfare, which still accounts for only a fraction of 2009 government fiscal spending and of the entire two-year fiscal stimulus package.

Reforms are necessary in order to transfer money away from state-owned enterprises into the hands of shareholders to boost consumption. In particular a more extensive SOE dividend reform is required as well as more privatisations of SOEs. Corporate retained earnings would then actually make their way to residual owners rather than automatically getting reinvested. Nick Lardy at the Peterson Institute for International Economics proposes reducing China's structural bias towards low household income and high corporate investment by extracting dividend payments from mainland SOEs.²²

The recommended approach is to stimulate domestic consumption, not increase production, since consumers in the United States, European Union and Japan will not buy more in the foreseeable future. It is also vital to invest in improving key 'smart' infrastructures such as rail and IT, as well as healthcare and education. State funding in support of job creation should focus more strongly on developing service industries, which would help overcome the country's reliance on exports and contribute towards a more sustainable long-term growth model.

Recommendations:

- *Expand and increase SOE dividend payment and redistribute to Chinese households indirectly through government spending on social security, healthcare and education*
- *Continue and increase government spending in pension and healthcare systems in order to provide the social 'safety net' which would enable households to consume*

5.3 Fiscal and financial system

Bank loans are the main source of funding for the 2008 RMB 4 trillion stimulus program. New RMB-denominated loans in the first nine months of 2009 stood at RMB 8.67 trillion, which is RMB 5.19 trillion more than the same period last year.²³ The European Chamber believes that it is crucial to avoid fast track plant build-ups that will create massive industrial challenges after 2010, and subsequently lead to non-performing loans building up in the banking system.

Bank lending and approval procedures for bond issuance and capital market fund raisings have to be tightened to successfully avoid or curb overcapacity. Nick Lardy proposes introducing harder budget constraints through market reforms in the banking system, and redirecting financial surpluses from local government investment projects to social transfers and subsidies.

22) Lardy, N., China: Toward a Consumption-Drive Growth Path, Policy Briefs in International Economics, Peterson Institute for International Economics, October 2006 (available at www.iie.org)

23) Xinhua News, "China's new loans rise to 516.7 bln yuan in Sept." October 14, 2009, http://news.xinhuanet.com/english/2009-10/14/content_12231501.htm



The currently low interest rates make households (debtors) subsidise borrowings from manufacturers, which further increases the spread in growth rates between domestic consumption and investment. This is mainly caused by the large spread between deposit and lending rates, which can be utilised by banks for the recapitalisation from NPL issued to large manufacturers and SOEs. Interest rates have to reflect the real cost of capital.

The NDRC already proposed financing guidelines for banks. Investors would not be allowed to raise money for unauthorised expansion through bonds, short-term bills, medium-term notes, convertible bonds or equity offerings. NDRC demands more financing restrictions for industries that have overcapacity according to their assessment in October 2009. Among these industries are steel, cement, flat glass, solar, and wind turbine. In addition to gaining the regular approvals from CSRC, all firms in these sectors also have to seek NDRC approval for any capital-raising via public equity or debt.

However, strict control and supervision is necessary as can be seen from the following data: The share of new loans from the Big 4 banks²⁴ was only 21% in September for new loans and has decreased tremendously from previous values (40% in August, 70% in the first 6 months) as a recent Caijing report reveals. Lending activities at smaller banks is lively, even though Beijing announced tougher restrictions.

Recommendations:

- *Tighten loan approval process by making financing contingent on project economic viability (medium- and long-term) and environmental/social impact*
- *Encourage utilisation of locally available private capital to increase (non-state) banking and insurance services, which would help integrate non-urban population into the banking system and into insurance coverage*
- *Allow market access for specialised, efficient private financial service providers, encourage both SME and private (venture) capital*
- *Reform the fiscal system to give local regions more funding possibilities, including the possibility of issuing local bonds*
- *Central and local governments should support programs that increase general commercial and financial literacy, especially in public schools and universities, as well as broader media-based financial education*
- *Overcome the traditional and still predominant focus on short-term quantitative gains in investment activity by companies operated within the SASAC-system at state or provincial level. Instead, central and provincial governments should encourage long-term value creation (often beyond the office term of local decision-takers) in life, health and pension insurance*
- *Expand and further develop the consumer credit market*
- *Develop micro-finance and micro-insurance services within the savings bank services*

5.4 Promoting a vibrant services sector

In China, the service sector accounted for 40% of GDP in 2008, according to the National Bureau of Statistics. This figure reflects China's rural history and economic planning. To protect local jobs, many local governments continue to maintain obsolete industries and turn a blind eye to overcapacities. Most of the industries affected by overcapacity are capital intensive – as highlighted in this study – and are thus a relatively expensive and

24) "Big 4" Chinese banks include Bank of China, Industrial and Commercial Bank of China (ICBC), China Construction Bank and Agricultural Bank of China.

inefficient means of propping up employment. To promote more labour-intensive growth, Beijing has to increase household wage income as a share of GDP. It is vital to remove and reduce restrictions and taxation burdens on the services sector. This enables private and foreign invested companies to grow and compete in more services industries, too.

Encouraging the development of the service sector, by allowing more competition in sectors ranging from hospitality to telecommunications and tourism to insurance, would help ease the employment pressure faced by local governments. Moreover, developing services would support employment in a relatively low-energy intensive way, while providing more opportunities for household consumption.

It is clear that developing the pension, healthcare, and unemployment protection systems – including vocational re-training of redundant industrial workers for jobs in service industries – is the solution for reducing Chinese households' savings rate and thus increasing consumption. Developing the national pension scheme for migrant workers is one significant area that needs to be tackled.

By expanding the range of products that can cover the day-to-day risks of millions of households, the commercial insurance sector could encourage Chinese families to spend greater amounts of their savings. Central and local governments should be encouraged to inform students at public schools and universities about insurance and to reach a broader segment of the public by providing media-based education.

Micro-credit and micro-insurance would help to boost and stabilise income for rural SMEs that could in turn absorb surplus labour which would otherwise worsen the plight of migrant workers. Likewise, providing micro-finance to young entrepreneurs in key environmental protection areas or other future technologies would create more high-quality job opportunities for millions of graduates. It would improve the economic mix in traditional industrial regions, too.

Recommendations:

- *Further open-up service industry to the private sector*
- *Encourage competition in the service sector (especially the financial service sector) by easing market entry requirements for private and foreign-invested companies*
- *Expand pension coverage*
- *Increase central and local government funding of vocational re-training*
- *Enhance the social safety net, expand the coverage of the pension system, healthcare insurance and other unemployment benefits*

5.5 Strengthen the privatisation process

Tackling overcapacity is not only a matter of reducing capacity growth. Capacity itself has to be reduced. The current economic climate presents an opportunity to tackle the



long-mooted restructuring of outdated and inefficient capacity in the industrial sector, including the closure of excess facilities. The most effective way to do so is through a process of gradual privatisation led by the state. When companies in a sector plagued by overcapacity are privatised, the overcapacity is automatically lowered as low margins and resulting low profits lead to the least efficient (and normally oldest and most polluting) companies closing. In Europe, this process has led to the creation of innovative, highly-competitive global players, though the process took between 10 and 20 years depending on the sector.

Recommendations:

- *Encourage a gradual privatisation in sectors suffering from overcapacity*
- *Ensure a fair and level playing field between domestic, foreign enterprises and SOEs*
- *Increase central and local government funding for vocational training and re-training, including financial services*

5.6 Promoting innovation

The ability of business enterprises to innovate is a crucial element in the process of curbing overcapacity and transforming China into a more sustainable economy based on knowledge and innovation. Indigenous innovation, however, cannot thrive without innovators and the intellectual property they create being protected. Research & Development activities are extensive and time consuming. These efforts are needed to achieve innovations. They bear high risks and must be protected. If intellectual property is not sufficiently protected, Chinese enterprises will be deterred from investing in innovation. They will remain mainly assemblers and manufacturers lacking their own core technologies.

The European Chambers IPR Working Group recommends the following actions to be taken to further enhance innovations:

- Limit the disclosure of technical know-how to what is strictly necessary
- Acknowledge the private nature of the IP Right, enforce greater deterrence, publicly punish (via the internet) and fine unfair competition and trademark infringements

An in-depth analysis of IPR can be found in the European Business In China Position Paper 2009-2010.

Apart from protecting IPR, small and medium-sized enterprises (SME) generally play a critical role in delivering innovations. SMEs are important sources of economic growth, competitiveness and employment. They bring innovation into the market with revolutionary technologies, products and services. The European Union acknowledges

the key economic and social role played by SMEs as a major growth and job creation catalyst. The NDRC recently announced its intention to allocate RMB 3 billion of the RMB 4 trillion stimulus package for SMEs to help them enhance their innovative capabilities. This is very important action, especially since SMEs could not benefit from the first stimulus program owing to non-transparent funding processes. Lack of transparency and difficulty obtaining information, lack of standards, and difficulties obtaining financing are problems that continue to hinder SMEs.

Recommendations:

- *Continue to improve intellectual property protection in order to protect innovations and give Chinese companies incentives to increase R&D spending*
- *Improve the business environment for SMEs*
- *Provide funding for key technology clusters*

5.7 Improve the implementation of environmental, safety and health standards and laws

Beijing has taken important initial steps to reduce overcapacity, by making employment and the environment more important relative to GDP and fiscal revenue when evaluating local officials for their career development.

In order to control new project approvals, environmental regulations and their supervision have to be strengthened. Construction should not be started on projects that fail to pass the environmental impact assessment.

At the same time, stricter enforcement of China's environmental, health and safety standards and laws would reduce overcapacity in energy-intensive and potentially polluting industries such as steel, non-ferrous metals, chemicals.

Recommendations:

- *Make transparent, fair and mandatory environmental impact assessments a necessary pre-condition for new projects over a certain size to be approved*
- *Monitor compliance with environmental, safety and health standards and punish companies that violate them*
- *Increase independence of Ministry of Environmental Protection (MEP) and Ministry of Human Resources and Social Security (MoHRSS) at local levels in order to improve robustness of enforcement*
- *Monitor projects falling under government procurement to ensure that bid winners comply with standards set forth in bid requirements*



5.8 Reform resource pricing

The Chinese government has been discussing overhauling the country's resource-pricing mechanisms for several years now. Reforming resource pricing has been identified as an effective tool to provide businesses with the necessary incentives to increase energy efficiency and reduce overcapacity. Friedrich Hayek, Nobel Laureate in economics, reflected that prices are not just about cost plus a profit, but are rather concentrated forms of information about supply, demand, quality, and timing. Hayek showed that only market pricing could efficiently coordinate economic activity among these diverse actors. Indicators in China over the past years prove for example that energy consumers have not been receiving the proper signals about the true cost of energy use. Global and regional markets are characterised by market-based prices, while some of China's domestic markets are often still characterised by government-guided prices. Although coal prices in China have been partially market-priced, most other energy prices, including refined products, electric power, and natural gas prices, are not yet fully market based. The recent decline of both CPI (consumer price index) and PPI (producer price index) provides a good macro-environment for rationalising many resources' pricing mechanisms, which had been difficult to change in the past years when prices were continuously rising.

Under the State Council's 2009 structural reform plan, several actions are likely to be taken:

- Natural gas tariffs: Up-stream natural gas prices will be raised to better reflect global prices. End-user tariffs will likely be reformed to improve the transparency of cost pass-through over the medium term
- Water tariffs: Many local governments will raise water tariffs to enhance local governments' capacity to raise prices for water treatment
- Power tariffs: End-user tariffs will likely be raised, and the on-grid tariff mechanism will be changed into a system of competitive bidding

Pricing reform does not have to be a sudden overnight move, but it should be a constant and continuous one.

Recommendations:

- *Adjust the relative input prices by increasing resource and environmental charges*
- *Reduce energy price subsidies to industry and continue resource price reform, focusing on areas like coal resource tax, electricity price, water and natural gas price*
- *Reform the resource tax system*

5.9 A more flexible currency to reflect demand / supply

An undervalued currency raises the cost of imports while subsidising producers with tradable goods. For clarification it has to be noted that China's recent growth and capacity creation process was not driven by an undervalued exchange rate. It was driven by excessive investments in the domestic market. Before the global financial crisis, exports could distribute the overcapacity on foreign markets. From today's perspective, an exchange rate adjustment could be part of the solution to fight against overcapacity.

However, authorities should not let the exchange rate float without intervention, as then the currency would appreciate sharply in response to the rising surplus, effectively "pushing" all the overcapacity back into the domestic economy. This would raise costs. Keeping the status quo is also not possible. A gradual appreciation would be more practical.

Recommendations:

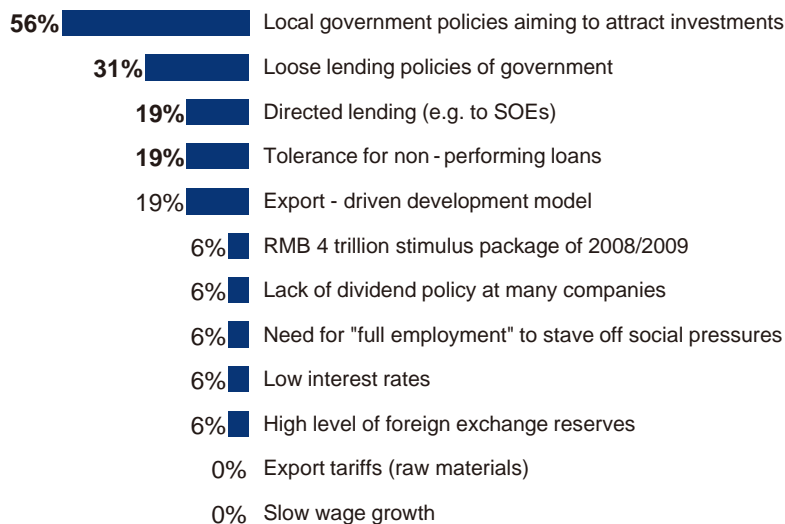
- *A gradual appreciation of the RMB*



6 Appendix

In Autumn 2009, the European Chamber and Roland Berger surveyed the members of the European Chamber in order to discover what they thought were the key factors that drive overcapacity in China's industries. Respondents were asked how strongly they perceive the impact of certain macro- and micro-economic reasons on overcapacity in their industry.

"WHICH OF THE FOLLOWING MACROECONOMIC REASONS HAVE STRONG IMPACT ON OVERCAPACITY IN YOUR INDUSTRY?"



" WHICH OF THE FOLLOWING MICROECONOMIC REASONS HAVE STRONG IMPACT ON OVERCAPACITY IN YOUR INDUSTRY?"



More than 50% of the European Chamber respondents consider local government policies aimed at attracting investment as a main reason for overcapacity and more than a third the unrealistically high growth expectations of companies active on the Chinese market.



List of abbreviations

bn	Billion
bpd	Barrels per day
CAGR	Compound annual growth rate
CAPEX	Capital expenditure
CBMINFO	China Building Materials Information Center
CPI	Consumer price index
CLSA	Company name (independent brokerage/ investment group)
CSRC	China Security Regulatory Commission
CTL	Coal to Liquid
FAI	Fixed asset investment
FOE	Foreign owned enterprises
EHS	Environment, health and safety (standards)
EIT	Enterprise income tax
EPB	Environmental Protection Bureau
EU	European Union
GDP	Gross domestic product
IMF	International Monetary Fund
IPR	Intellectual Property Rights
KVA	Kilo-volt-ampere
MEP	Ministry of Environmental Protection
MIIT	Ministry of Industry and Information Technology
MIT	Massachusetts Institute of Technology
mn	Million
MoHRSS	Ministry of Human Resources and Social Security
NDRC	National Development and Reform Commission
NPC	National People's Congress
NPL	Non-performing loans
OECD	Organisation for Economic Co-operation and Development
PCS	Poly-crystalline Silicone
PPI	Producer Price Index
PV	Photovoltaic
ROE	Return on Equity
SME	Small- and medium-sized Enterprises
SOE	State-owned Enterprise
STC	Silicon Tetrachloride
TCS	Trichlorosilane
tr	Trillion
VAT	Value Added Tax
WTO	World Trade Organization
Y o Y	Year on Year

Important government authorities and associations

State Council (国务院介绍)

Premier: Wen Jiabao (温家宝)

The State Council of the People's Republic of China is the highest executive organ of State power as well as the highest organ of State administration. The State Council is composed of a premier, vice-premiers, State councillors, ministers in charge of ministries and commissions, the auditor-general and the secretary-general. The premier assumes the overall responsibility for the work of the State Council.

For more information, please refer to: <http://www.gov.cn/english/links/statecouncil.htm>

Study-relevant Ministries and Commissions (国务院组成部门)

National Development and Reform Commission (NDRC) 国家发展和改革委员会

Chairman: Zhang Ping (张平)

The main functions and responsibilities of the NDRC are to formulate and implement strategies of national economic and social development, to monitor macroeconomic and social development trends and provide forecasts and guidance regarding these trends, to direct, promote and coordinate the restructuring of economic system.

For more information, please refer to: <http://en.ndrc.gov.cn/>

Ministry of Industry and Information Technology (MIIT) 工业和信息化部

Minister: Li Yizhong (李毅中)

MIIT was created in March 2008 to supersede the Ministry of Information Industry and includes the former Commission of Science, Technology and Industry for National Defence, the State Council Informatisation Office and the State Tobacco Monopoly Bureau. The main functions and responsibilities of MIIT are to develop strategies and policies for new types of industrialisation, formulate development programs to support the integration between information and industrialization and promote scientific research in a broad range of industrial sectors.

For more information, please refer to: <http://www.miit.gov.cn> (Chinese only)

Ministry of Environmental Protection (MEP)

Minister: Zhou Shengxian (周生贤)

MEP is responsible for the formulation and enforcement of national environmental policy as well as the coordination and supervision of major environmental projects. It was upgraded to a full ministry in March 2008 from the ministry-level State Environmental Protection Administration (SEPA), which itself was upgraded in 1998 from the vice-ministry-level National Environmental Protection Administration.

For more information, please refer to: <http://english.mep.gov.cn/>

Ministry of Human Resources and Social Security (MOHRSS)

Minister: Yin Weimin (尹蔚民)

MOHRSS was created in March 2008 from the merger of several government bodies: the Ministry of Labor and Social Security (MLSS); the Ministry of Personnel (MOP), which oversees government employees; and the State Administration of Foreign Experts Affairs.



The new ministry is responsible for China's labor and human resources needs and for building and supervising a comprehensive labor and talent market. MOHRSS took over the functions of its predecessors. From MLSS, MOHRSS inherited the task of resettling workers laid off by state-owned enterprises (SOEs) and managing national medical care and pension issues, as well as managing the insurance of government employees and reform of medical insurance. From MOP, MOHRSS received the responsibility of overseeing management of technical personnel, state civil servants, and leading executives in key SOEs.

For more information, please refer to: <http://www.mohrss.gov.cn> (Chinese only)

About Roland Berger Strategy Consultants

Roland Berger Strategy Consultants, founded in 1967, is one of the world's leading strategy consultancies. With 36 offices in 25 countries, the company has successful operations in all major international markets. In 2007, it generated approximately EUR 600 million in revenues with 2,000 employees. The strategy consultancy is an independent partnership exclusively owned by about 170 Partners.

Roland Berger supports leading international corporations, non-profit organisations and public institutions in all management issues - ranging from strategic alignment and introducing new business models and processes to organisational structures and IT strategy. Roland Berger is based on global Competence Centers that are organised along functional and industry lines. This allows us to offer tailor-made solutions devised by our interdisciplinary teams of experts drawn from different Competence Centers.

At Roland Berger we develop customised, creative strategies together with our clients. Providing support in the implementation phase is particularly important to us. In so doing, we create value for our clients. That's why our approach is based on the entrepreneurial character and individuality of our consultants – "It's character that creates impact". All employees at Roland Berger Strategy Consultants strive to adhere to our three core values: excellence, entrepreneurship and partnership.

The Chinese market is a key pillar of Roland Berger Strategy Consultants' international expansion. Since our entry into the China market in 1984, the consultancy has grown rapidly: The four Chinese offices (Shanghai, Beijing, Hong Kong and Taipei) now have over 200 people dedicated to working extensively with both leading Chinese and international companies.

As the only consulting firm of European origin among the global Top 5, Roland Berger Strategy Consultants has built its expertise on its extensive experience working with clients on complex business cases for 40 years. Outstanding strategic analysis and in-depth knowledge on implementation measures are the strengths of the company's consulting approach. Roland Berger consultants combine their analytical and strategic know-how within a diverse company setting to help clients in Greater China successfully master their unique challenges.



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About the European Chamber

Purpose

- As the independent voice of EU business in China, we seek greater market access and improved operating conditions for European companies

Services

- We provide European business with an effective communication and lobbying channel to the European and Chinese authorities, business associations and media
- We ensure key recommendations and lobbying strategies are shaped by business, through our Members' Working Groups
- We monitor China's compliance with WTO and other international commitments which impact on doing business in China
- We support companies with an information platform on business and market conditions in China
- We help companies expand their networks of European and Chinese business contacts
- We promote sharing of knowledge and experience between EU and Chinese business

Principles

- We are an independent, non-profit organization governed by our Members
- We work for the benefit of European business as a whole
- We operate as a single, networked organization across Mainland China
- We maintain close, constructive relations with the Chinese and EU authorities while retaining our independence;
- We seek the broadest possible representation of EU business in China within our membership: large, medium and small enterprises from all business sectors and EU Member States, throughout China
- We operate in accordance with Chinese law and regulations
- We treat all our Members, business partners and employees with fairness and integrity

General Background

The European Union Chamber of Commerce in China was originally founded by 51 member companies based in China on 19th October 2000. The rationale for the establishment of the Chamber was actually based on the need of the European Union and local European businesses to find a common voice for the various business sectors. Eight years since its foundation, the European Chamber now has a total of more than 1500 members in some seven cities: Beijing, Chengdu, Nanjing, Pearl River Delta, Shanghai, Shenyang and Tianjin. The Chamber is recognised by the European Commission and the Chinese Authorities as the official voice of European Business in China.

The European Chamber is a member driven non-profit fee-based organisation with a core structure of 34 Working Groups representing all relevant segments of European business in China. It is registered as a Foreign Chamber of Commerce with the Ministry of Commerce and China Council for the Promotion of International trade.

